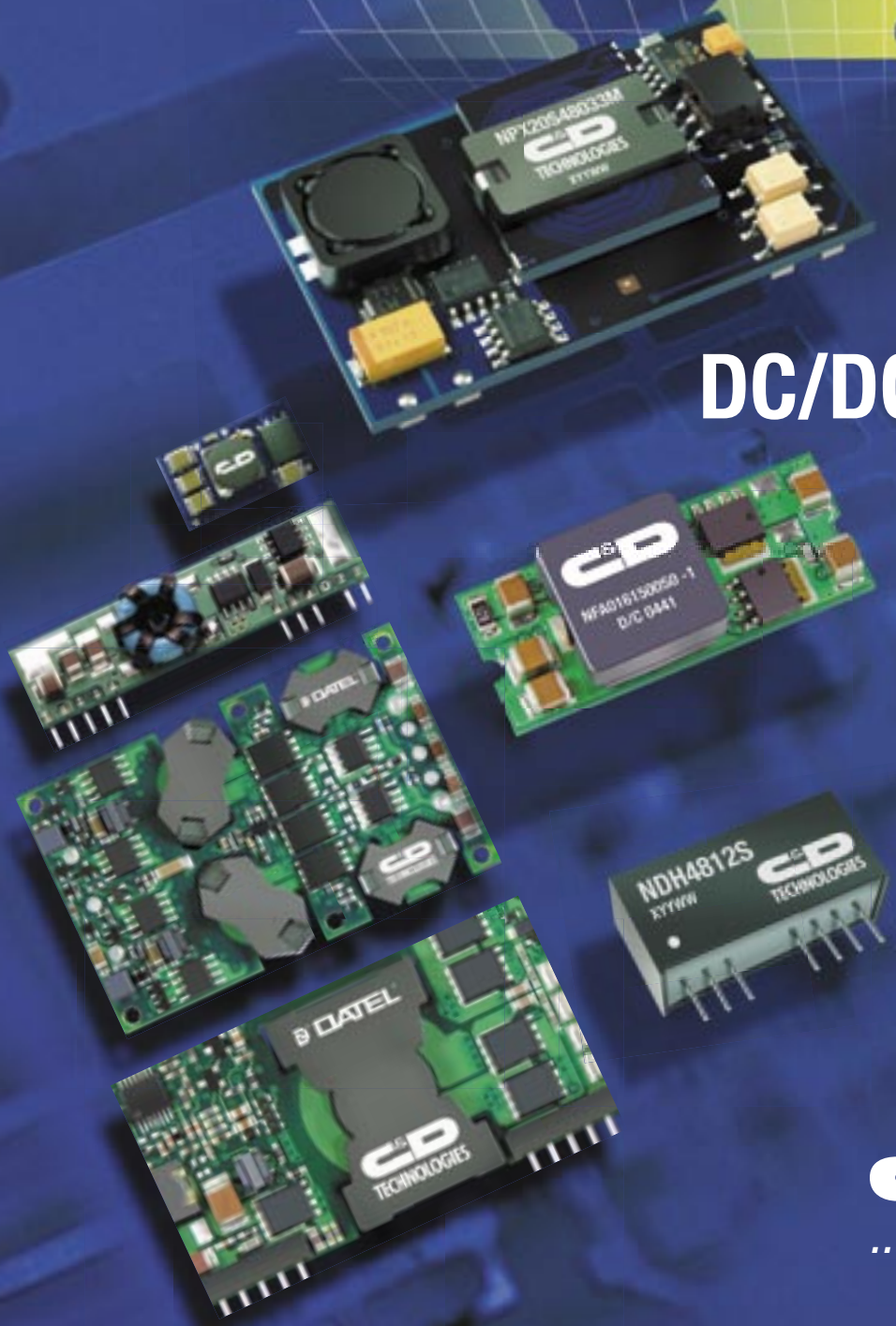
C&D TECHNOLOGIES

www.dc4power.com

Product Data Book



DC/DC Converters

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C&D TECHNOLOGIES

...POWERING INNOVATION

Powering Inno

Power Electronics Division

C&D Technologies was founded on innovation - when Frank Carlyle and Leon Dougherty began a career converting gas lighting to electricity in the early 1900s.

Since then the organization has grown into a global force in power conversion and storage and is now a world-leading manufacturer, listed on the New York Stock Exchange (NYSE:CHP).

As we have changed, so have the demands of our customers. Where a simple light bulb would have amazed Carlyle and Dougherty's first customers, today's electronic design engineers need innovative solutions for their ever more complex power needs. We aim not only to meet these needs, but to design the solutions that provide the power to drive the innovations of the future.

With half a million square feet of manufacturing in six facilities on three continents, eight development labs and 12 sales offices around the world, C&D Technologies' Power Electronics Division boasts some of the best resources in the power electronics industry.

Our product range is the widest available today and is constantly being updated to keep pace with the many markets we serve.

Value, quality, reliability and innovation go hand-in-hand with total customer support to ensure that our products and services are second to none.

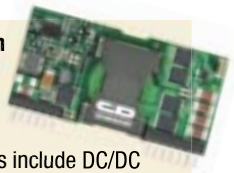
www.cd4power.com

Full data on over 3,400 products are available online now.
The site offers an interactive resource for engineers sourcing all our product ranges and features:

- Intelligent product search
- Technical support details
- RoHS information
- Online purchasing
- Product datasheets
- Application notes
- Sample requests
- Custom parts requests

C&D Technologies, Inc.

C&D Technologies, Inc. is a technology company that produces and markets systems for the power conversion and storage of electrical power, including industrial batteries and electronics. The organization comprises three operating divisions:



Power Electronics Division designs, manufactures and markets products for the conversion of power within electronic systems. Products include DC/DC & AC/DC converters, support magnetics, digital panel meters and data acquisition products.

Standby Division designs, manufactures and markets batteries for standby power in telecommunications, uninterruptable power systems (UPS), broadband, CATV and mobility traction applications.

Motive Power Division develops, manufactures and markets the world's leading motive power batteries, advanced chargers, electronic monitoring modules, maintenance tools and computerized management systems.

C&D Technologies Inc. reserves the right to alter or improve the specifications, data, descriptions, internal design or manufacturing process at any time, without notice. Please check with your supplier or visit our web site to ensure that you have the current and complete specification for your product before use.

While such information is believed to be accurate as indicated herein, C&D Technologies, Inc. makes no warranty and hereby disclaims all warranties, express or implied, with regard to the accuracy or completeness of such information. Further, because the product(s) featured herein may be used under conditions beyond its control, C&D Technologies, Inc. hereby disclaims all warranties, either express or implied, concerning the fitness or suitability of such product(s) for any particular use or in any specific application or arising from any course of dealing or usage of trade. The user is solely responsible for determining the suitability of the product(s) featured herein for user's intended purpose and in user's specific application. The products are not suitable for use as Safety Critical Components[1], in Life Support Devices[2] or on aircraft.

C&D Technologies, Inc.'s liability for any breach of warranty is limited as set forth in C&D Technologies, Inc.'s standard warranty applicable to the product ("The Warranty"). The warranty is exclusive and offered in lieu of all other express, implied or statutory warranties including, without limitation, implied warranties of merchantability and fitness for a particular purpose.

In no event shall C&D Technologies, Inc.'s liability for any damages arising out of any sale of products to buyer, and regardless of the legal theory on which such damages may be based, exceed the amount that supplier has received as payment for such products and under no circumstances shall supplier be subject to any consequential, incidental, indirect, special or contingent damages whatsoever, including but not limited to damages for lost profits or goodwill, even if supplier was advised of the possibility of such damage.

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1 Safety Critical Component means any component whose failure to perform could cause the failure of, or affect the operation of a Life Support Device.
2 Life Support Device means any device, system or ancillary equipment intended for implant into the body or used in relation to supporting or sustaining life.

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vation...

DC/DC Converters

All your DC/DC power needs from one source

C&D Technologies are proud to offer the largest range of DC/DC Converters available from a single manufacturer. Our ever increasing product portfolio includes all the options you'll ever need, including:

- **Isolated & non-isolated (POL)**
- **High performance memory support**
- **Single, dual, triple & quad output**
- **Output volages from 0.8 to 72 Volts**
- **Output current up to 150 Amps**
- **Industry standard pin configurations**
- **Open frame, encapsulated, DIP, SIP and brick style package styles (including 1/16th brick)**

If we don't have the exact solution to fit your application we can work with you to customize an existing design or produce a new product for your specific needs.

Quality as standard

Our aim is to fully understand the requirements of our customers, to 'get it right first time' (every time) and to continually improve the quality of our products and customer service.

A manufacturer you can rely on

Customers expect product reliability as standard - and ours perform to specification (and often beyond) - but we believe that reliability of supply, service and support is equally important.

A source of technical excellence

We pride ourselves in our ability to provide technical support on a worldwide basis. From design to delivery we proactively identify and implement solutions that address your requirements.

How to use this Data Book

1

Select a product category

2

Find your output voltage

3

Choose suitable products

4

Download full datasheets

This product data book is designed for the quick identification of suitable DC/DC converters for any given application.

Select by output voltage

For ease of selection, the products are grouped depending on type (see contents panel), then listed by output voltage.

Simply scan the left hand column in the appropriate product section to find the products which offer you the output option(s) you need.

The other columns of data should give you the information you require to decide which products best suit your application.

For full product data, you should then go to www.cd4power.com to download the approriate datasheet(s).

Select by power/current

If you need to select an isolated DC/DC converter by power, or a POL converter by current, we have provided look-up tables on pages 29 and 31.

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Single Output Isolated DC/DC Converters

Power from 0.25 to 340 Watts; currents from 0.02 to 80 Amps; voltages from 1.2 to 48 Volts; inputs from 3 to 75 Volts . . . C&D Technologies clearly offers the broadest line of single-output, isolated DC/DC converters in the entire power industry . . . without a doubt.

Our low-power encapsulated products (mini SIP's, DIP's and SMD's) are among the smallest available. Many use contemporary ceramic-substrate and copper-lead-frame technologies to achieve their small size. Automated production helps them achieve small prices.

At the other extreme, our high-power 1/8, 1/4 and 1/2 bricks are open-frame assemblies using multi-layer, heavy-copper pc boards and planar magnetics. Their high efficiencies enable full-power operation to high ambient temperatures, and optional baseplates deliver the best thermal performance in the industry.

If you can not find the DC/DC power solution you need in the tables below, contact us, and we'll modify or develop one for you.

Output Voltage	Rated Output Current	Total Output Power	Input Voltage		Isolation Voltage	Efficiency	Package Details										Model Number	Datasheet at www.cd4power.com
			Nom.	Range			Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H) (S = SIP package option) Inches	mm		
Vdc	A	W	Vdc	Vdc	kVdc	%												
1.2V	6	7.2	12	10-18	1.5	78		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-1.2/6000-D12A	A-Series, UWR 7-15W
			24	18-36	1.5	79		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-1.2/6000-D24A	
			48	36-75	1.5	80		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-1.2/6000-D48A	
	10	12	12	9-18	1.5	82		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-1.2/10000-D12	UHE, 12-30W
			24	18-36	1.5	83		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-1.2/10000-D24	
			48	36-75	1.5	83		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-1.2/10000-D48	
	20	24	48	36-75	2.25	86	•	•	•	•					0.9 x 2.3 x 0.36	22.9 x 58.4 x 9.1	ULE-1.2/20-D48N	ULE, 20A
	20	24	48	36-75	1.5	85	•	•	•	•					2.28 x 0.8 x 0.35	57.9 x 20.3 x 8.9	EHS20-012-xy	EHS20-012
	25	30	24	18-36	2	88	•	•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	ULQ-1.2/25-D24P	ULQ Series
			48	36-75	2	80	•		•		•				1.45 x 2.28 x 0.4	36.8 x 57.9 x 10.2	SLC100-29	SLC100 Series
					2.25	87.5	•	•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	ULQ-1.2/25-D48N	ULQ Series
	40	48	48	36-75	2	80		•	•		•				1.45 x 2.28 x 0.4	36.8 x 57.9 x 10.2	SLC100-20	SLC100 Series
	55	66	48	36-75	1.5	87		•	•		•				2.28 x 1.45 x 0.47	57.9 x 36.8 x 11.8	QHS55-012-xy	QHS55-012
	80	96	48	36-75	2.25	83		•	•			•			2.3 x 2.4 x 0.39	58.4 x 61 x 9.9	HPH-1.2/80-D48	HPH Series
1.5V	6	9	12	10-18	1.5	79.5		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-1.5/6000-D12A	A-Series, UWR 7-15W
			24	18-36	1.5	80		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-1.5/6000-D24A	
			48	36-75	1.5	80.5		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-1.5/6000-D48A	
	10	15	12	9-18	1.5	83		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-1.5/10000-D12	UHE, 12-30W
			24	18-36	1.5	86		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-1.5/10000-D24	
			48	36-75	1.5	84		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-1.5/10000-D48	
	15	22.5	48	36-75	2.25	89	•	•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	ULQ-1.5/15-D48N	ULQ Series
	20	30	48	36-75	1.5	87	•	•	•	•					2.28 x 0.8 x 0.35	57.9 x 20.3 x 8.9	EHS20-015-xy	EHS20-015
	20	30	48	36-75	2.25	87	•	•	•	•					0.9 x 2.3 x 0.36	22.9 x 58.4 x 9.1	ULE-1.5/20-D48N	ULE, 20A
	25	37.5	24	18-36	2	87.5	•	•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	ULQ-1.5/25-D24P	ULQ Series
			48	36-75	2	82	•		•		•				1.45 x 2.28 x 0.4	36.8 x 57.9 x 10.2	SLC100-30	SLC100 Series
					2.25	87	•	•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	ULQ-1.5/25-D48N	ULQ Series
	40	60	48	36-75	2	82		•	•		•				1.45 x 2.28 x 0.4	36.8 x 57.9 x 10.2	SLC100-21	SLC100 Series
	50	75	48	36-75	1.5	86		•	•		•				2.28 x 1.45 x 0.47	57.9 x 36.8 x 11.8	QHS50-015-xy	QHS50-015
	60	90	48	36-75	2.25	86.5		•	•			•			2.3 x 2.4 x 0.42	58.4 x 61 x 10.7	UHP-1.5/60-D48	UHP Series
1.8V	6	10.8	12	10-18	1.5	83		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-1.8/6000-D12A	A-Series, UWR 7-15W
			24	18-36	1.5	77	•	•	•						1 x 2 x 0.4	25.4 x 50.8 x 8.5	NPX20S24018X	NPX20 Series
					1.5	84.5		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-1.8/6000-D24A	A-Series, UWR 7-15W
			48	36-75	1.5	74	•	•	•						1 x 2 x 0.4	25.4 x 50.8 x 8.5	NPX20S48018X	NPX20 Series
					1.5	85		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-1.8/6000-D48A	A-Series, UWR 7-15W
	10	18	12	9-18	1.5	85.5		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-1.8/10000-D12	UHE, 12-30W
			24	18-36	1.5	87		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-1.8/10000-D24	
			48	36-75	1.5	85		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-1.8/10000-D48	
	15	27	48	36-75	2.25	89	•	•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	ULQ-1.8/15-D48N	ULQ Series
	20	36	24	18-36	2	86	•	•	•	•					0.9 x 2.3 x 0.36	22.9 x 58.4 x 9.1	ULE-1.8/20-D24P	ULE, 20A
	20	36	48	36-75	1.5	88	•	•	•	•					2.28 x 0.8 x 0.35	57.9 x 20.3 x 8.9	EHS20-018-xy	EHS20-018
			48	36-75	2.25	86	•	•	•	•					0.9 x 2.3 x 0.36	22.9 x 58.4 x 9.1	ULE-1.8/20-D48N	ULE, 20A
	25	45	24	18-36	2	87.5	•	•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	ULQ-1.8/25-D24P	ULQ Series
	25	45	48	36-75	1.5	84		•	•		•				2.28 x 1.45 x 0.5	57.9 x 36.8 x 12.7	QHS25-018-xy	QHS25
			48	36-75	2	82	•		•		•				1.45 x 2.28 x 0.4	36.8 x 57.9 x 10.2	SLC100-31	SLC100 Series
					2.25	87.5	•	•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	ULQ-1.8/25-D48N	ULQ Series
	40	72	48	36-75	2	82		•	•		•				1.45 x 2.28 x 0.4	36.8 x 57.9 x 10.2	SLC100-22	SLC100 Series
	50	90	48	36-75	1.5	88		•	•		•				2.28 x 1.45 x 0.47	57.9 x 36.8 x 11.8	QHS50-018-xy	QHS50-018
	60	108	48	36-75	2.25	87		•	•			•			2.3 x 2.4 x 0.42	58.4 x 61 x 10.7	UHP-1.8/60-D48	UHP Series
2V	6	12	12	10-18	1.5	85		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-2/6000-D12A	A-Series, UWR 7-15W
			24	18-36	1.5	85		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-2/6000-D24A	
			48	36-75	1.5	86		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-2/6000-D48A	

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25 Watts, UL Recognized

NPH25S Series

- Industry standard pinout
- UL1950 recognized
- Non latching current limit
- Constant 350kHz frequency
- Versatile control options
- Continuous rating to 30W at +60°C

Datasheet: C&D NPH25S Series

V_{OUT}	Vdc	3.3	5	12	15					
I_{OUT}	A	7.3	5.0	2.1	1.7					

20 Amp Eighth Bricks

ULE Series

- Standard 1/8-brick package and pinout
- Output currents to 20A, power to 66W
- SMT package option; Lead-free
- 48V, 24V and 12V inputs
- Efficiencies to 90%; 50mVp-p noise
- 2250Vdc isolation; Basic insulation

Datasheet: DATEL ULE Series

V_{OUT}	Vdc	1	1.2	1.5	1.8	2	2.5	3.3	5	12
I_{OUT}	A	20	20	20	20	20	20	20	12	4.2

Output Voltage	Rated Output Current	Total Output Power	Input Voltage		Isolation Voltage	Efficiency	Package Details										Model Number	Datasheet at www.cd4power.com
			Nom.	Range			Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H) (S = SIP package option) Inches	mm		
Vdc	A	W	Vdc	Vdc	kVdc	%												
2V	15	30	24	18-36	1.5	76		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA75LS02	VKA75 Series
			48	33-75	1.5	77		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA75MS02	
				36-75	2.25	89	•	•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	ULQ-2/15-D48N	ULQ Series
	20	40	24	18-36	1.5	76		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA100LS02	VKA100 Series
			48	33-75	1.5	77		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA100MS02	
	25	50	24	18-36	2	88	•	•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	ULQ-2/25-D24P	ULQ Series
			48	36-75	2	82	•		•		•				1.45 x 2.28 x 0.4	36.8 x 57.9 x 10.2	SLC100-32	SLC100 Series
	25	50	48	36-75	2.25	88	•	•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	ULQ-2/25-D48N	ULQ Series
	30	60	24	18-36	1.5	74		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA100LS02F	VKA100 Series
			48	33-75	1.5	75		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA100MS02F	
	40	80	48	36-75	2	82		•	•		•				1.45 x 2.28 x 0.4	36.8 x 57.9 x 10.2	SLC100-23	SLC100 Series
2.5V	6	15	12	10-18	1.5	86		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-2.5/6000-D12A	A-Series, UWR 7-15W
			24	18-36	1.5	82	•	•							1 x 2 x 0.4	25.4 x 50.8 x 8.5	NPX20S24025X	NPX20 Series
						85		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-2.5/6000-D24A	A-Series, UWR 7-15W
			48	36-75	1.5	85	•	•							1 x 2 x 0.4	25.4 x 50.8 x 8.5	NPX20S48025X	NPX20 Series
						86		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-2.5/6000-D48A	A-Series, UWR 7-15W
	10	25	12	9-18	1.5	87		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-2.5/10000-D12	UHE, 12-30W
			24	18-36	1.5	88		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-2.5/10000-D24	
			48	36-75	1.5	88		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-2.5/10000-D48	
	15	37.5	48	36-75	2.25	89.5	•	•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	ULQ-2.5/15-D48N	ULQ Series
	20	50	24	18-36	2	87	•	•	•	•					0.9 x 2.3 x 0.36	22.9 x 58.4 x 9.1	ULE-2.5/20-D24P	ULE, 20A
						88.5	•	•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	ULQ-2.5/20-D24P	ULQ Series
			48	36-75	1.5	89	•	•	•	•					2.28 x 0.8 x 0.35	57.9 x 20.3 x 8.9	EHS20-025-xy	EHS20-025
					2.25	88	•	•	•	•					0.9 x 2.3 x 0.36	22.9 x 58.4 x 9.1	ULE-2.5/20-D48N	ULE, 20A
						88.5	•	•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	ULQ-2.5/20-D48N	ULQ Series
	25	62.5	48	36-75	2	83	•		•		•				1.45 x 2.28 x 0.4	36.8 x 57.9 x 10.2	SLC100-33	SLC100 Series
		63	48	36-75	1.5	86		•	•		•				2.28 x 1.45 x 0.5	57.9 x 36.8 x 12.7	QHS25-025-xy	QHS25
	30	75	24	18-36	1.5	76		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA100LS2V5F	VKA100 Series
			48	33-75	1.5	78		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA100MS2V5F	
	40	100	48	36-75	1.5	89		•	•		•				2.28 x 1.45 x 0.47	57.9 x 36.8 x 11.8	QHS40-025-xy	QHS40-025
					2	83		•	•		•				1.45 x 2.28 x 0.4	36.8 x 57.9 x 10.2	SLC100-24	SLC100 Series
					2.25	91		•	•		•				1.45 x 2.3 x 0.45	36.8 x 58.4 x 11.4	UVQ-2.5/40-D48N	UVQ Series
	45	113	48	36-75	1.5	87		•	•			•			2.3 x 2.4 x 0.5	58.4 x 61 x12.7	HHS45-025-0y	HHS45/50
	50	125	48	36-75	2.25	87.5		•	•			•			2.3 x 2.4 x 0.42	58.4 x 61 x 10.7	UHP-2.5/50-D48	UHP Series
	65	163	48	36-75	1.5	90		•	•			•			2.3 x 2.4 x 0.5	58.4 x 61 x12.7	HHS65-025-0y	HHS60/70
3.3V	0.303	1	3.3	2.97-3.63	3	75		•					•	•	0.24 x 0.45 x 0.3 (S)	6 x 11.5 x 7.5 (S)	NKE0303	NKE Series
					1	73	•								0.44 x 0.5 x 0.26	11.2 x 12.7 x 6.6	NTE0303M	NTE Series
			5	4.5-5.5	3	75		•					•	•	0.24 x 0.45 x 0.3 (S)	6 x 11.5 x 7.5 (S)	NKE0503	NKE Series
					1	74	•								0.44 x 0.5 x 0.26	11.2 x 12.7 x 6.6	NTE0503M	NTE Series
	0.909	3	24	18-36	1	70		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDTS2403	NDTS Series
								•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDY2403	NDY Series
			48	36-72	1	71		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDTS4803	NDTS Series
								•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDY4803	NDY Series
	2.94	10	24	18-36	1.5	79		•							1 x 1.26 x 0.39	25 x 32 x 10	NPH10S2403I	NPH10 Series
			48	36-75	1.5	80		•							1 x 1.26 x 0.39	25 x 32 x 10	NPH10S4803I	
	4.25	14	5	4.7-7.5	1.5	77		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	UWR-3.3/4250-D5A	A-Series, UWR 14-20W
			12	10-18	1.5	86		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-3.3/4250-D12A	A-Series, UWR 7-15W
			24	18-36	1.5	87		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-3.3/4250-D24A	
			48	36-75	1.5	87		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-3.3/4250-D48A	
	4.4	15	24	18-36	1.5	81		•							1 x 2 x 0.4	25 x 50 x 10	NPH15S2403I	NPH15 Series
			48	36-75	1.5	83		•							1 x 2 x 0.4	25 x 50 x 10	NPH15S4803I	
	4.5	14.9	12	10-18	1.5	84.5		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UEP-3.3/4500-D12	UEP Series

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40 Amp Quarter Bricks

SLC100 Series

- Industry standard footprint & size
- UL60950 recognized
- Wide input voltage range
- Output trim function
- Remote sense for output compensation
- Remote on/off

Datasheet: C&D SLC100 Series

V_{OUT}	Vdc	0.8	1.0	1.2	1.5	1.8	2.5	3.3	5.0	12
I_{OUT}	A			40	40					

80 Amp Half Bricks

HPH Series

- High-power half-bricks; standard pinout
- Output currents to 80A, power to 230W
- Baseplate option for superior thermals
- Standard 48V (36-75V) inputs
- 2250Vdc isolation; basic insulation
- Additional models in development

Datasheet: DATEL HPH Series

V_{OUT}	Vdc	1.8	3.3							
I_{OUT}	A	80	70							

Output Voltage	Rated Output Current	Total Output Power	Input Voltage Nom.	Input Voltage Range	Isolation Voltage	Efficiency	Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H) (S = SIP package option) Inches	Dimensions mm	Model Number	Datasheet at www.cd4power.com
Vdc	A	W	Vdc	Vdc	kVdc	%												
3.3V	4.5	14.9	24	18-36	1.5	87.5		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UEP-3.3/4500-D24	UEP Series
			48	36-75	1.5	87.5		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UEP-3.3/4500-D48	
						87		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-3.3/4500-D48ANT	A-Series, UWR 7-15W
	4.85	16	24	9-36	1.5	79		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	UWR-3.3/4850-D12A	A-Series, UWR 14-20W
			48	18-75	1.5	80		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	UWR-3.3/4850-D48A	
	6	19.8	12	9-18	1.5	82		•							1.6 x 2 x 0.43	40.4 x 50.6 x 10.8	WPN20R12S03	WPN20 Series
			24	18-36	1.5	84	•	•	•						1 x 2 x 0.4	25.4 x 50.8 x 8.5	NPX20S24033X	NPX20 Series
						83		•							1.6 x 2 x 0.43	40.4 x 50.6 x 10.8	WPN20R24S03	WPN20 Series
			48	33-75	1.5	83		•							1.6 x 2 x 0.43	40.4 x 50.6 x 10.8	WPN20R48S03	
				36-75	1.5	86	•	•	•						1 x 2 x 0.4	25.4 x 50.8 x 8.5	NPX20S48033X	NPX20 Series
						88		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UEP-3.3/6000-D48	UEP Series
	7.3	25	24	18-36	1.5	81		•							1.4 x 2 x 0.39	35 x 50 x 10	NPH25S2403I	NPH25 Series
	7.3	25	48	36-75	1.5	83		•							1.4 x 2 x 0.39	35 x 50 x 10	NPH25S4803I	NPH25 Series
	7.5	24.8	24	9-36	1.5	88		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-3.3/7500-Q12	UHE, 12-30W
			48	18-75	1.5	89.5		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-3.3/7500-Q48	
				36-75	1.5	91		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-3.3/7500-D48	
						88.5		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-3.3/7500-D48T	
	8	26.4	12	10-18	1.5	87.5		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	UWR-3.3/8-D12A	A-Series, UWR 26-40W
	9	29.7	24	18-36	1.5	88.5		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	UWR-3.3/9-D24A	A-Series, UWR 26-40W
			48	36-75	1.5	88.5		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	UWR-3.3/9-D48A	
	10	33	24	18-36	1.5	81		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA50LS03	VKA50 Series
			48	33-75	1.5	82		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA50MS03	
	12	39.6	24	18-36	1.5	81		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA60LS03	VKA60 Series
			48	33-75	1.5	82		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA60MS03	
	15	50	48	36-75	1.5	90	•	•	•	•					2.28 x 0.8 x 0.35	57.9 x 20.3 x 8.9	EHS15-033-xy	EHS15-033
		49.5	24	18-36	1.5	81		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA75LS03	VKA75 Series
			48	33-75	1.5	82		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA75MS03	
				36-75	2.25	90.5	•	•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	ULQ-3.3/15-D48N	ULQ Series
	18	59.4	12	9-18	2	89	•	•	•	•					0.9 x 2.3 x 0.36	22.9 x 58.4 x 9.1	ULE-3.3/18-D12P	ULE, 20A
	20	66	24	18-36	2	89	•	•	•	•					0.9 x 2.3 x 0.36	22.9 x 58.4 x 9.1	ULE-3.3/20-D24P	ULE, 20A
						89.5	•	•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	ULQ-3.3/20-D24P	ULQ Series
					1.5	81		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA100LS03	VKA100 Series
			48	33-75	1.5	82		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA100MS03	
				36-75	2.25	89	•	•	•	•					0.9 x 2.3 x 0.36	22.9 x 58.4 x 9.1	ULE-3.3/20-D48N	ULE, 20A
						90	•	•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	ULQ-3.3/20-D48N	ULQ Series
	25	82.5	48	36-75	2	87	•		•		•				1.45 x 2.28 x 0.4	36.8 x 57.9 x 10.2	SLC100-34	SLC100 Series
		83	48	36-75	1.5	88		•	•		•				2.28 x 1.45 x 0.5	57.9 x 36.8 x 12.7	QHS25-033-xy	QHS25
	30	99	24	18-36	1.5	81		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA100LS03F	VKA100 Series
			48	33-75	1.5	82		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA100MS03F	
				36-75	2	87		•	•		•				1.45 x 2.28 x 0.4	36.8 x 57.9 x 10.2	SLC100-25	SLC100 Series
					2.25	92		•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	UCQ-3.3/30-D48	UCQ Series
	35	116	48	36-75	1.5	91		•	•		•				2.28 x 1.45 x 0.47	57.9 x 36.8 x 11.8	QHS35-033-xy	QHS35-033
					2.25	92		•	•		•				1.45 x 2.3 x 0.45	36.8 x 58.4 x 11.4	UVQ-3.3/35-D48N	UVQ Series
	45	148.5	48	36-75	2.25	89		•	•			•			2.3 x 2.4 x 0.42	58.4 x 61 x 10.7	UHP-3.3/45-D48	UHP Series
		149	48	36-75	1.5	88		•	•			•			2.3 x 2.4 x 0.5	58.4 x 61 x12.7	HHS45-033-0y	HHS45/50
	60	198	48	36-75	1.5	91		•	•			•			2.3 x 2.4 x 0.5	58.4 x 61 x12.7	HHS60-033-0y	HHS60/70
	70	231	48	36-75	2.25	94		•	•			•			2.3 x 2.4 x 0.39	58.4 x 61 x 9.9	HPH-3.3/70-D48	HPH Series
5V	0.05	0.25	5	4.5-5.5	1	70		•					•	•	0.24 x 0.45 x 0.39 (S)	6 x 11.5 x 10 (S)	LME0505	LME Series
			12	10.8-13.2	1	70		•					•	•	0.24 x 0.45 x 0.39 (S)	6 x 11.5 x 10 (S)	LME1205	
	0.1	0.5	5	4.75-5.25	1	50		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMF0505	NMF Series
	0.1	0.5	12	11.4-12.6	1	50		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMF1205	NMF Series
			24	22.8-25.2	1	50		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMF2405	
			48	45.6-50.4	1	50		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMF4805	

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50 Watt Eighth Bricks

EHS Series

- Standard 1/8-brick pinout; TH/SMT packages
- 0.8" width among the smallest in the industry
- Excellent thermal derating
- Positive or negative enable logic
- µProcessor-controlled supervisory functions
- Monotonic start-up into pre-biased load

Datasheet: EHS Series

V_{OUT}	Vdc	1.2	1.5	1.8	2.5	3.3	5.0			
I_{OUT}	A	20	20	20	20	15	10			

5 Watts, 1" x 1"

UWR 5W Series

- Full 5 Watts with no external components
- Standard 1" x 2" (25 x 50mm) pinout
- Wide input ranges: 18-36V or 36-72V
- Guaranteed efficiencies to 80%
- Shielded (5 sides) metal cases
- Operation to +60°C without derating

Datasheet: DATEL UWR, 5W

V_{OUT}	Vdc	5	12	15						
I_{OUT}	A	1	0.42	0.335						

Output Voltage	Rated Output Current	Total Output Power	Input Voltage		Isolation Voltage	Efficiency	Package Details									Model Number	Datasheet at www.cd4power.com
			Nom.	Range			Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H) (S = SIP package option) Inches	mm	
Vdc	A	W	Vdc	Vdc	kVdc	%											
5V	0.15	0.75	5	4.5-5.5	0.75	69	•	•					•	•	0.24 x 0.77 x 0.4 (S)	6.1 x 19.6 x10.2 (S)	HPR100	HPR1XX Series
			12	10.8-13.2	0.75	69	•	•					•	•	0.24 x 0.77 x 0.4 (S)	6.1 x 19.6 x10.2 (S)	HPR106	
			15	13.5-16.5	0.75	69	•	•					•	•	0.24 x 0.77 x 0.4 (S)	6.1 x 19.6 x10.2 (S)	HPR112	
			24	21.6-26.4	0.75	65	•	•					•	•	0.24 x 0.77 x 0.4 (S)	6.1 x 19.6 x10.2 (S)	HPR118	
	0.2	1	3.3	2.97-3.63	3	76		•					•	•	0.24 x 0.45 x 0.3 (S)	6 x 11.5 x 7.5 (S)	NKE0305	NKE Series
					1	78	•								0.44 x 0.5 x 0.26	11.2 x 12.7 x 6.6	NTE0305M	NTE Series
			5	4.5-5.5	3.5	68	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HB01U05S05	HB01U Series
					3	69		•					•	•	0.24 x 0.45 x 0.3 (S)	6 x 11.5 x 7.5 (S)	NKE0505	NKE Series
						78		•					•	•	0.24 x 0.45 x 0.3 (S)	6 x 11.5 x 7.5 (S)	NKE0505xE	
					1	69		•					•	•	0.24 x 0.45 x 0.39 (S)	6 x 11.5 x 10 (S)	NME0505	NME Series
					3	68		•					•	•	0.24 x 0.77 x0.39 (S)	6 x 19.5 x 10 (S)	NMV0505xA	NMV Series
					1	68	•								0.44 x 0.5 x 0.26	11.2 x 12.7 x 6.6	NTE0505M	NTE Series
						77	•								0.44 x 0.5 x 0.26	11.2 x 12.7 x 6.6	NTE0505ME	
			12	10.8-13.2	3.5	68	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HB01U12S05	HB01U Series
					3	71		•					•	•	0.24 x 0.45 x 0.3 (S)	6 x 11.5 x 7.5 (S)	NKE1205	NKE Series
					1	69		•					•	•	0.24 x 0.45 x 0.39 (S)	6 x 11.5 x 10 (S)	NME1205	NME Series
					3	69		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMV1205xA	NMV Series
	0.2	1	12	10.8-13.2	1	67	•								0.44 x 0.5 x 0.26	11.2 x 12.7 x 6.6	NTE1205M	NTE Series
			15	13.5-16.5	3.5	68	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HB01U15S05	HB01U Series
			24	20-30	3.5	68	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HB01U24S05	
				21.6-26.4	1	70		•					•	•	0.24 x 0.45 x 0.39 (S)	6 x 11.5 x 10 (S)	NME2405	NME2 Series
					3	70		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMV2405xA	NMV Series
			48	43.2-52.8	1	70		•					•	•	0.30 x 0.45 x 0.39 (S)	7.5 x 11.5 x 10 (S)	NME4805	NME2 Series
					3	70		•					•	•	0.30 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMV4805xA	NMV Series
	0.3	1.5	5	4.5-5.5	8	75		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	PWR1300A	PWR13XX Series
			12	10.8-13.2	8	75		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	PWR1306A	
			15	13.5-16.5	8	75		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	PWR1312A	
	0.4	2	5	4.5-5.5	1	78		•						•	0.3 x 0.55 x 0.39	7.5 x 14.0 x 10	NML0505S	NML Series
				4.5-9	1	66		•						•	0.36 x 0.86 x 0.44	9.2 x 21.8 x 11.1	NDL0505S	NDL Series
				4.75-5.25	0.5	62	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02R05S05	HL02R Series
						74	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02U05S05	HL02U Series
			12	9-18	1	73		•						•	0.36 x 0.86 x 0.44	9.2 x 21.8 x 11.1	NDL1205S	NDL Series
				10.8-13.2	1	81		•						•	0.3 x 0.55 x 0.39	7.5 x 14.0 x 10	NML1205S	NML Series
				11.4-12.6	0.5	60	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02R12S05	HL02R Series
						72	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02U12S05	HL02U Series
			15	14.25-15.75	0.5	58	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02R15S05	HL02R Series
						70	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02U15S05	HL02U Series
			24	9-36	1.5	77		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	WFC02R24S05	WFC02 Series
				18-36	1	74		•						•	0.36 x 0.86 x 0.44	9.2 x 21.8 x 11.1	NDL2405S	NDL Series
				22.8-25.2	0.5	62	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02R24S05	HL02R Series
						72	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02U24S05	HL02U Series
			48	18-72	1.5	74		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	WFC02R48S05	WFC02 Series
				36-72	1	73		•						•	0.36 x 0.86 x 0.44	9.2 x 21.8 x 11.1	NDL4805S	NDL Series
	0.5	2.5	5	4.5-9	1	74		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	UST-5/500-D5	UST, 3W
					0.5	74		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	UWP-5/500-D5	UWP, 3W
			12	9-18	1	74		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	UST-5/500-D12	UST, 3W
					0.5	75		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	UWP-5/500-D12	UWP, 3W
			48	18-72	1	75		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	UST-5/500-D48	UST, 3W
					0.5	75		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	UWP-5/500-D48	UWP, 3W
	0.6	3	5	4.5-9	1	66		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDY0505	NDY Series
			12	9-18	1	71		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDY1205	
			24	18-36	1	70		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDTS2405	NDTS Series
								•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDY2405	NDY Series
			48	36-72	1	73		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDTS4805	NDTS Series

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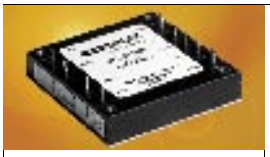
75 Watt Half Bricks



VKA75 Series

- 18-36V & 33-75V input ranges
- High efficiency - 87% typical at 5V
- Remote sense
- Operation to +100°C baseplate temperature
- Primary remote on/off
- UL60950, VDE/EN60950

Datasheet: C&D VKA75 Series

V_{OUT}	Vdc	2	3.3	5	12	15	24			
I_{OUT}	A	15	15	15	6.3	5.0	3.1			

75/84W, 4:1 Inputs

UQQ Series

- The only quad-input quarter-bricks
- 9-36V input ranges; 5V or 12V outputs
- 18-75V inputs and 3.3V out in development
- Efficiencies as high as 92%
- Standard, 1.45" x 2.3" Q-brick packages
- Open-frame, low-profile (0.35"/8.9mm)

Datasheet: DATEL UQQ Series

V_{OUT}	Vdc	5	12							
I_{OUT}	A	15	7							

Output Voltage	Rated Output Current	Total Output Power	Input Voltage		Isolation Voltage	Efficiency	Package Details									Model Number	Datasheet at www.cd4power.com
			Nom.	Range			Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H) (S = SIP package option) Inches	mm	
Vdc	A	W	Vdc	Vdc	kVdc	%											
5V	**0.6**	**3**	48	36-72	1	73		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDY4805	NDY Series
	0.8	**4**	5	4.5-5.5	8	80		•							1 x 2 x 0.4	25.4 x 50.8 x 10.2	HB04U05S05Q	HB04U Series
			12	10.8-13.2	8	87		•							1 x 2 x 0.4	25.4 x 50.8 x 10.2	HB04U12S05Q	
			15	13.5-16.5	8	87		•							1 x 2 x 0.4	25.4 x 50.8 x 10.2	HB04U15S05Q	
	1	**5**	5	4.75-5.25	0.5	80		•						•	0.34 x 2.21 x 0.4	8.6 x 56.1 x10.2	HPR700	HPR7XX Series
			12	9-18	1.5	75		•					•		0.79 x 1.26 x 0.39	20 x 32 x 10	WP06R12S05	WP06R Series
				11.4-12.6	0.5	80		•						•	0.34 x 2.21 x 0.4	8.6 x 56.1 x10.2	HPR706	HPR7XX Series
			15	14.2-15.8	0.5	82		•						•	0.34 x 2.21 x 0.4	8.6 x 56.1 x10.2	HPR712	
			24	18-36	1	75		•							1 x 1 x 0.45	25.4 x 25.4 x 11.4	UWR-5/1000-D24	UWR, 5W
					1.5	79		•					•		0.79 x 1.26 x 0.39	20 x 32 x 10	WP06R24S05	WP06R Series
			48	34-75	1.5	80		•					•		0.79 x 1.26 x 0.39	20 x 32 x 10	WP06R48S05	
				36-72	1	75		•							1 x 1 x 0.45	25.4 x 25.4 x 11.4	UWR-5/1000-D48	UWR, 5W
	1.6	**8**	5	4.7-7.25	1.5	76		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	UWR-5/1600-D5A	A-Series, UWR 6-10W
	1.8	**9**	48	18-75	1.5	81		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	UWR-5/1800-D48A	
	1.96	**10**	24	18-36	1.5	83		•							1 x 1.26 x 0.39	25 x 32 x 10	NPH10S2405I	NPH10 Series
			48	36-75	1.5	83		•							1 x 1.26 x 0.39	25 x 32 x 10	NPH10S4805I	
	2	**10**	12	9-18	1.5	81		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	UWR-5/2000-D12A	A-Series, UWR 6-10W
			24	18-36	1.5	85		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	UWR-5/2000-D24E	A-Series, UWR 6-10W
			48	36-72	1.5	84		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	UWR-5/2000-D48E	A-Series, UWR 6-10W
	3	**15**	5	4.7-7.5	1.5	79		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	UWR-5/3000-D5A	A-Series, UWR 14-20W
			12	10-18	1.5	85		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-5/3000-D12A	A-Series, UWR 7-15W
			24	18-36	1.5	84		•							1 x 2 x 0.4	25 x 50 x 10	NPH15S2405I	NPH15 Series
						88		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-5/3000-D24A	A-Series, UWR 7-15W
			48	36-75	1.5	85		•							1 x 2 x 0.4	25 x 50 x 10	NPH15S4805I	NPH15 Series
						88		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-5/3000-D48A	A-Series, UWR 7-15W
	3.5	**17.5**	12	10-18	1.5	86		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UEP-5/3500-D12	UEP Series
			24	18-36	1.5	88		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UEP-5/3500-D24	
			48	36-75	1.5	88		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UEP-5/3500-D48	
	4	**20**	12	9-18	1.5	84		•							1.6 x 2 x 0.43	40.4 x 50.6 x 10.8	WPN20R12S05	WPN20 Series
			24	9-36	1.5	82		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	UWR-5/4000-D12A	A-Series, UWR 14-20W
				18-36	1.5	84		•							1.6 x 2 x 0.43	40.4 x 50.6 x 10.8	WPN20R24S05	WPN20 Series
			48	18-75	1.5	84		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	UWR-5/4000-D48A	A-Series, UWR 14-20W
				33-75	1.5	85		•							1.6 x 2 x 0.43	40.4 x 50.6 x 10.8	WPN20R48S05	WPN20 Series
				36-72	1.5	86		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	UWR-5/4000-D48E	A-Series, UWR 14-20W
	5	**25**	24	9-36	1.5	87.5		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-5/5000-Q12	UHE, 12-30W
				18-36	1.5	84		•							1.4 x 2 x 0.39	35 x 50 x 10	NPH25S2405I	NPH25 Series
			48	18-75	1.5	90		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-5/5000-Q48	UHE, 12-30W
				36-75	1.5	85		•							1.4 x 2 x 0.39	35 x 50 x 10	NPH25S4805I	NPH25 Series
	6	**30**	48	18-75	1.5	87.5		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-5/6000-Q48T	UHE, 12-30W
				36-75	1.5	91		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UEP-5/6000-D48	UEP Series
						89		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-5/6000-D48	UHE, 12-30W
								•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-5/6000-D48T	
	7	**35**	12	10-18	1.5	89.5		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	UWR-5/7-D12A	A-Series, UWR 26-40W
	8	**40**	24	18-36	1.5	90		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	UWR-5/8-D24A	A-Series, UWR 26-40W
			48	36-75	1.5	90		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	UWR-5/8-D48A	
	10	**50**	12	9-18	2	89	•	•	•	•					0.9 x 2.3 x 0.36	22.9 x 58.4 x 9.1	ULE-5/10-D12P	ULE, 20A
			24	18-36	1.5	86		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA50LS05	VKA50 Series
			48	33-75	1.5	87		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA50MS05	
						90	•	•	•	•					2.28 x 0.8 x 0.35	57.9 x 20.3 x 8.9	EHS10-050-xy	EHS10-050
	12	**60**	24	18-36	2	90	•	•	•	•					0.9 x 2.3 x 0.36	22.9 x 58.4 x 9.1	ULE-5/12-D24P	ULE, 20A
					1.5	86		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA60LS05	VKA60 Series
			48	33-75	1.5	87		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA60MS05	
				36-75	2.25	90.5	•	•	•	•					0.9 x 2.3 x 0.36	22.9 x 58.4 x 9.1	ULE-5/12-D48N	ULE, 20A
	15	**75**	12	9-36	1.5	90		•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	UQQ-5/15-Q12	UQQ Series

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6 Amp 1" x 2"

NPX20 Series

- High Efficiency with current foldback
- Industry standard pinout
- Remote on/off
- Over voltage, current & temperature protection
- Operation to zero load
- UL60950 recognition pending

Datasheet: C&D NPX20 Series

V_{OUT}	Vdc	1.8	2.5	3.3						
I_{OUT}	A	6	6	6						

1 Watt, Sub-miniature

NKE Series

- Sub-miniature SIP & DIP styles
- 3kVdc Isolation
- Full 1 Watt load at –40°C to +85°C
- UL 94V-0 package material
- Industry standard pinout
- Fully encapsulated with toroidal magnetics

Datasheet: C&D NKE Series

V_{OUT}	Vdc	3.3	5	9	12	15				
I_{OUT}	mA	303	200	111	83	66				

Output Voltage	Rated Output Current	Total Output Power	Input Voltage		Isolation Voltage	Efficiency	Package Details									Model Number	Datasheet at www.cd4power.com
							Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H) (S = SIP package option)		
Vdc	A	W	Nom. Vdc	Range Vdc	kVdc	%									Inches	mm	
5V	15	75	24	18-36	2	91	•	•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	ULQ-5/15-D24P
					1.5	86		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA75LS05
			48	33-75	1.5	87		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA75MS05
				36-75	2.25	91	•	•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	ULQ-5/15-D48N
	20	100	24	18-36	1.5	86		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA100LS05
			48	33-75	1.5	87		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA100MS05
				36-75	2	89		•	•		•				1.45 x 2.28 x 0.4	36.8 x 57.9 x 10.2	SLC100-26
							•		•		•				1.45 x 2.28 x 0.4	36.8 x 57.9 x 10.2	SLC100-35
					2.25	92		•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	UCQ-5/20-D48
	25	125	48	36-75	2.25	92		•	•		•				1.45 x 2.3 x 0.45	36.8 x 58.4 x 11.4	UVQ-5/25-D48N
	30	150	48	33-75	1.5	85		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA150MS05
				36-75	2.25	93		•	•			•			2.3 x 2.4 x 0.52	58.4 x 61 x 13.2	UCH-5/30-D48
5.2V	1.5	7.8	5	4.7-7.25	1.5	76		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	UWR-5.2/1500-D5A
	3	15.6	5	4.7-7.5	1.5	80		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	UWR-5.2/3000-D5A
9V	0.028	0.25	5	4.5-5.5	1	75		•					•	•	0.24 x 0.45 x 0.39 (S)	6 x 11.5 x 10 (S)	LME0509
			12	10.8-13.2	1	75		•					•	•	0.24 x 0.45 x 0.39 (S)	6 x 11.5 x 10 (S)	LME1209
	0.1	0.9	5	4.75-5.25	1	62		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMF0509
			12	11.4-12.6	1	62		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMF1209
			24	22.8-25.2	1	62		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMF2409
			48	45.6-50.4	1	62		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMF4809
	0.111	1	3.3	2.97-3.63	3	75		•					•	•	0.24 x 0.45 x 0.3 (S)	6 x 11.5 x 7.5 (S)	NKE0309
					1	77	•								0.44 x 0.5 x 0.26	11.2 x 12.7 x 6.6	NTE0309M
			5	4.5-5.5	3	75		•					•	•	0.24 x 0.45 x 0.3 (S)	6 x 11.5 x 7.5 (S)	NKE0509
					1	77		•					•	•	0.24 x 0.45 x 0.39 (S)	6 x 11.5 x 10 (S)	NME0509
					3	75		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMV0509xA
					1	75	•								0.44 x 0.5 x 0.26	11.2 x 12.7 x 6.6	NTE0509M
			12	10.8-13.2	3	78		•					•	•	0.24 x 0.45 x 0.3 (S)	6 x 11.5 x 7.5 (S)	NKE1209
					1	74		•					•	•	0.24 x 0.45 x 0.39 (S)	6 x 11.5 x 10 (S)	NME1209
					3	74		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMV1209xA
					1	73	•								0.44 x 0.5 x 0.26	11.2 x 12.7 x 6.6	NTE1209M
			24	21.6-26.4	1	75		•					•	•	0.24 x 0.45 x 0.39 (S)	6 x 11.5 x 10 (S)	NME2409
					3	80		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMV2409xA
			48	43.2-52.8	1	75		•					•	•	0.30 x 0.45 x 0.39 (S)	7.5 x 11.5 x 10 (S)	NME4809
					3	70		•					•	•	0.30 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMV4809xA
	0.222	2	5	4.5-5.5	1	81		•						•	0.3 x 0.55 x 0.39	7.5 x 14.0 x 10	NML0509S
				4.5-9	1	71		•						•	0.36 x 0.86 x 0.44	9.2 x 21.8 x 11.1	NDL0509S
			12	9-18	1	79		•						•	0.36 x 0.86 x 0.44	9.2 x 21.8 x 11.1	NDL1209S
				10.8-13.2	1	84		•						•	0.3 x 0.55 x 0.39	7.5 x 14.0 x 10	NML1209S
			24	18-36	1	81		•						•	0.36 x 0.86 x 0.44	9.2 x 21.8 x 11.1	NDL2409S
			48	36-72	1	80		•						•	0.36 x 0.86 x 0.44	9.2 x 21.8 x 11.1	NDL4809S
	0.25	2.25	5	4.75-5.25	0.5	80		•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	LP02U05S09K
			12	11.4-12.6	0.5	77		•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	LP02U12S09K
	0.333	3	5	4.5-9	1	72		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDY0509
			12	9-18	1	78		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDY1209
			24	18-36	1	78		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDY2409
			48	36-72	1	80		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDY4809
12V	0.021	0.25	5	4.5-5.5	1	75		•					•	•	0.24 x 0.45 x 0.39 (S)	6 x 11.5 x 10 (S)	LME0512
			12	10.8-13.2	1	75		•					•	•	0.24 x 0.45 x 0.39 (S)	6 x 11.5 x 10 (S)	LME1212
	0.062	0.75	5	4.5-5.5	0.75	70	•	•					•	•	0.24 x 0.77 x 0.4 (S)	6.1 x 19.6 x10.2 (S)	HPR101
			12	10.8-13.2	0.75	77	•	•					•	•	0.24 x 0.77 x 0.4 (S)	6.1 x 19.6 x10.2 (S)	HPR107
			15	13.5-16.5	0.75	69	•	•					•	•	0.24 x 0.77 x 0.4 (S)	6.1 x 19.6 x10.2 (S)	HPR113

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4 Watts, High Isolation

HB04U Series

- 3kVdc isolation, 8kVDC test voltage
- Barrier 100% production tested
- Low barrier capacitance – 10pF
- Low leakage current – 2µA max.
- Internal filtering
- Ideal for biomedical applications

Datasheet: C&D HB04U Series

V_{OUT}	Vdc	5	12	15						
I_{OUT}	mA	800	333	267						

10 Amp "Non-Bricks"

UHE Series

- Most current available from a "non-brick"
- Standard, 1.6" x 2" (40.6 x 50.8mm) package
- Size is smaller than a quarter-brick
- Price is lower than 1/8, 1/4, 1/2 bricks
- Standard 2:1 and wide 4:1 input ranges
- UL/EN60950 certified for basic insulation

Datasheet: DATEL UHE, 12-30W

V_{OUT}	Vdc	1.2	1.5	1.8	2.5	3.3	5	12	15	
I_{OUT}	A	10	10	10	10	7.5	6	2.5	2	

Output Voltage	Rated Output Current	Total Output Power	Input Voltage		Isolation Voltage	Efficiency	Package Details									Model Number	Datasheet at www.cd4power.com
			Nom.	Range			Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H) (S = SIP package option) Inches	mm	
Vdc	A	W	Vdc	Vdc	kVdc	%											
12V	**0.062**	**0.75**	24	21.6-26.4	0.75	65	•	•					•	•	0.24 x 0.77 x 0.4 (S)	6.1 x 19.6 x10.2 (S)	HPR119	
	0.083	**1**	3.3	2.97-3.63	1	77	•								0.44 x 0.5 x 0.26	11.2 x 12.7 x 6.6	NTE0312M	NTE Series
			5	4.5-5.5	3.5	70	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HB01U05S12	HB01U Series
					3	77		•					•	•	0.24 x 0.45 x 0.3 (S)	6 x 11.5 x 7.5 (S)	NKE0512	NKE Series
						77		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMV0512xA	NMV Series
					1	78		•					•	•	0.24 x 0.45 x 0.39 (S)	6 x 11.5 x 10 (S)	NME0512	NME Series
					1	77	•								0.44 x 0.5 x 0.26	11.2 x 12.7 x 6.6	NTE0512M	NTE Series
				4.75-5.25	1	62		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMF0512	NMF Series
			12	10.8-13.2	3.5	70	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HB01U12S12	HB01U Series
					3	79		•					•	•	0.24 x 0.45 x 0.3 (S)	6 x 11.5 x 7.5 (S)	NKE1212	NKE Series
						77		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMV1212xA	NMV Series
					1	76		•					•	•	0.24 x 0.45 x 0.39 (S)	6 x 11.5 x 10 (S)	NME1212	NME Series
						74	•								0.44 x 0.5 x 0.26	11.2 x 12.7 x 6.6	NTE1212M	NTE Series
				11.4-12.6	1	62		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMF1212	NMF Series
			15	13.5-16.5	3.5	70	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HB01U15S12	HB01U Series
			24	20-30	3.5	70	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HB01U24S12	HB01U Series
				21.6-26.4	3	80		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMV2412xA	NMV Series
					1	80		•					•	•	0.24 x 0.45 x 0.39 (S)	6 x 11.5 x 10 (S)	NME2412	NME2 Series
	0.083	**1**	24	22.8-25.2	1	62		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMF2412	NMF Series
			48	43.2-52.8	1	80		•					•	•	0.30 x 0.45 x 0.39 (S)	7.5 x 11.5 x 10 (S)	NME4812	NME2 Series
					3	70		•					•	•	0.30 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMV4812xA	NMV Series
				45.6-50.4	1	62		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMF4812	NMF Series
	0.125	**1.5**	5	4.5-5.5	8	75		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	PWR1301A	PWR13XX Series
			12	10.8-13.2	8	75		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	PWR1307A	
			15	13.5-16.5	8	75		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	PWR1313A	
	0.166	**2**	5	4.5-5.5	1	84		•						•	0.3 x 0.55 x 0.39	7.5 x 14.0 x 10	NML0512S	NML Series
				4.5-9	1	71		•						•	0.36 x 0.86 x 0.44	9.2 x 21.8 x 11.1	NDL0512S	NDL Series
				4.75-5.25	0.5	83	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02U05S12	HL02U Series
						69	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02R05S12	HL02R Series
			12	9-18	1	80		•						•	0.36 x 0.86 x 0.44	9.2 x 21.8 x 11.1	NDL1212S	NDL Series
				10.8-13.2	1	85		•						•	0.3 x 0.55 x 0.39	7.5 x 14.0 x 10	NML1212S	NML Series
				11.4-12.6	0.5	79	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02U12S12	HL02U Series
						67	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02R12S12	HL02R Series
			15	14.25-15.75	0.5	67	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02R15S12	HL02R Series
						78	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02U15S12	HL02U Series
			24	9-36	1.5	76		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	WFC02R24S12	WFC02 Series
				18-36	1	81		•						•	0.36 x 0.86 x 0.44	9.2 x 21.8 x 11.1	NDL2412S	NDL Series
				22.8-25.2	0.5	67	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02R24S12	HL02R Series
						78	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02U24S12	HL02U Series
			48	18-72	1.5	74		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	WFC02R48S12	WFC02 Series
				36-72	1	81		•						•	0.36 x 0.86 x 0.44	9.2 x 21.8 x 11.1	NDL4812S	NDL Series
	0.25	**3**	5	4.5-9	1	71		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDY0512	NDY Series
						75		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	UST-12/250-D5	UST, 3W
					0.5	75		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	UWP-12/250-D5	UWP, 3W
			12	9-18	1	78		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDY1212	NDY Series
						74		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	UST-12/250-D12	UST, 3W
					0.5	74		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	UWP-12/250-D12	UWP, 3W
			24	18-36	1	80		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDTS2412	NDTS Series
								•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDY2412	NDY Series
			48	18-72	1	77		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	UST-12/250-D48	UST, 3W
					0.5	77		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	UWP-12/250-D48	UWP, 3W
				36-72	1	81		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDTS4812	NDTS Series
								•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDY4812	NDY Series
	0.333	**4**	5	4.5-5.5	8	80		•							1 x 2 x 0.4	25.4 x 50.8 x 10.2	HB04U05S12Q	HB04U Series

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1 Watt, Surface Mount

NTE Series

- Lead frame technology
- Maximum reflow temperature +280°C
- 1kVdc isolation
- Full 1 Watt load at –40°C to +85°C
- UL 94V-0 package material
- No heatsink required

Datasheet: C&D NTE Series

V_{OUT}	Vdc	3.3	5	9	12	15				
I_{OUT}	mA	303	200	111	83	66				

25A, Low Cost Quarter Bricks

ULQ Series

- Standard quarter-brick package/pinouts
- 1.2-12V outputs @ up to 25A and 120W
- 24V (18-36V) or 48V (36-75V) inputs
- Open-frame, low-profile (0.35"/8.9mm)
- Through-hole or new SMT packaging
- 2250Vdc isolation; UL/EN60950 certified

Datasheet: DATEL ULQ Series

V_{OUT}	Vdc	1.2	1.5	1.8	2	2.5	3.3	5	12	
I_{OUT}	A	25	25	25	25	20	20	15	10	

Output Voltage	Rated Output Current	Total Output Power	Input Voltage		Isolation Voltage	Efficiency	Package Details									Model Number	Datasheet at www.cd4power.com
			Nom.	Range			Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H) (S = SIP package option) Inches	mm	
Vdc	A	W	Vdc	Vdc	kVdc	%											
12V	**0.333**	**4**	12	10.8-13.2	8	87		•							1 x 2 x 0.4	25.4 x 50.8 x 10.2	HB04U12S12Q	HB04U Series
			15	13.5-16.5	8	87		•							1 x 2 x 0.4	25.4 x 50.8 x 10.2	HB04U15S12Q	
	0.416	**5**	12	9-18	1.5	77		•					•		0.79 x 1.26 x 0.39	20 x 32 x 10	WP06R12S12	WP06R Series
	0.42	**5**	24	18-36	1	80		•							1 x 1 x 0.45	25.4 x 25.4 x 11.4	UWR-12/420-D24	UWR, 5W
			48	36-72	1	80		•							1 x 1 x 0.45	25.4 x 25.4 x 11.4	UWR-12/420-D48	
	0.5	**6**	24	18-36	1.5	80		•					•		0.79 x 1.26 x 0.39	20 x 32 x 10	WP06R24S12	WP06R Series
			48	34-75	1.5	81		•					•		0.79 x 1.26 x 0.39	20 x 32 x 10	WP06R48S12	
	0.665	**8**	5	4.7-7.25	1.5	78		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	UWR-12/665-D5A	A-Series, UWR 6-10W
	0.75	**9**	48	18-75	1.5	82.5		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	UWR-12/750-D48A	
	0.83	**10**	12	9-18	1.5	84		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	UWR-12/830-D12A	
			24	18-36	1.5	86		•							1 x 1.26 x 0.39	25 x 32 x 10	NPH10S2412I	NPH10 Series
			48	36-75	1.5	86		•							1 x 1.26 x 0.39	25 x 32 x 10	NPH10S4812I	
	1.25	**15**	5	4.7-7.5	1.5	82		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	UWR-12/1250-D5A	A-Series, UWR 14-20W
			12	10-18	1.5	85		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-12/1250-D12A	A-Series, UWR 7-15W
			24	18-36	1.5	87		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-12/1250-D24A	
			48	36-75	1.5	87		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-12/1250-D48A	
	1.3	**15**	24	18-36	1.5	86		•							1 x 2 x 0.4	25 x 50 x 10	NPH15S2412I	NPH15 Series
			48	36-75	1.5	88		•							1 x 2 x 0.4	25 x 50 x 10	NPH15S4812I	
	1.4	**16.8**	12	10-18	1.5	85		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UEP-12/1400-D12	UEP Series
			24	18-36	1.5	87		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UEP-12/1400-D24	
	1.4	**16.8**	48	36-75	1.5	87		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UEP-12/1400-D48	UEP Series
	1.65	**19.8**	24	9-36	1.5	82.5		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	UWR-12/1650-D12A	A-Series, UWR 14-20W
			48	18-75	1.5	85		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	UWR-12/1650-D48A	
	1.66	**20**	12	9-18	1.5	86		•							1.6 x 2 x 0.43	40.4 x 50.6 x 10.8	WPN20R12S12	WPN20 Series
			24	18-36	1.5	87		•							1.6 x 2 x 0.43	40.4 x 50.6 x 10.8	WPN20R24S12	
			48	33-75	1.5	88		•							1.6 x 2 x 0.43	40.4 x 50.6 x 10.8	WPN20R48S12	
	2.1	**25**	24	18-36	1.5	86		•							1.4 x 2 x 0.39	35 x 50 x 10	NPH25S2412I	NPH25 Series
			48	36-75	1.5	88		•							1.4 x 2 x 0.39	35 x 50 x 10	NPH25S4812I	
	2.5	**30**	12	9-18	1.5	89		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-12/2500-D12	UHE, 12-30W
				9-36	1.5	87.5		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-12/2500-Q12	
			24	18-36	1.5	90		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-12/2500-D24	
			48	18-75	1.5	90.5		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-12/2500-Q48	
				36-75	1.5	92		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-12/2500-D48	
	4.2	**50.4**	24	18-36	2	89	•	•	•	•					0.9 x 2.3 x 0.36	22.9 x 58.4 x 9.1	ULE-12/4.2-D24P	ULE, 20A
					1.5	88		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA50LS12	VKA50 Series
			48	33-75	1.5	89		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA50MS12	
				36-75	2.25	89	•	•	•	•					0.9 x 2.3 x 0.36	22.9 x 58.4 x 9.1	ULE-12/4.2-D48N	ULE, 20A
	5	**60**	24	18-36	1.5	88		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA60LS12	VKA60 Series
			48	33-75	1.5	89		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA60MS12	
	6.3	**75.6**	24	18-36	1.5	88		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA75LS12	VKA75 Series
			48	33-75	1.5	89		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA75MS12	
	7	**84**	12	9-36	1.5	92		•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	UQQ-12/7-Q12	UQQ Series
	8	**96**	24	18-36	2	90.5	•	•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	ULQ-12/8-D24P	ULQ Series
					2.25	90		•	•		•				1.45 x 2.3 x 0.45	36.8 x 58.4 x 11.4	UVQ-12/8-D24P	UVQ Series
	8.3	**100**	24	18-36	1.5	88		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA100LS12	VKA100 Series
			48	33-75	1.5	89		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA100MS12	
				36-75	2	90		•	•		•				1.45 x 2.28 x 0.4	36.8 x 57.9 x 10.2	SLC100-27	SLC100 Series
							•		•		•				1.45 x 2.28 x 0.4	36.8 x 57.9 x 10.2	SLC100-36	
	10	**120**	48	36-75	2.25	90	•	•	•		•				1.45 x 2.3 x 0.35	36.8 x 58.4 x 8.9	ULQ-12/10-D48N	ULQ Series
						92		•	•		•				1.45 x 2.3 x 0.45	36.8 x 58.4 x 11.4	UVQ-12/10-D48N	UVQ Series
	12	**144**	48	36-75	1.5	93		•	•		•				2.28 x 1.45 x 0.47	57.9 x 36.8 x 11.9	QHS12-120-xy	QHS12-120
	12.5	**150**	48	33-75	1.5	89		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA150MS12	VKA150 Series
				36-75	2.25	93		•	•			•			2.3 x 2.4 x 0.52	58.4 x 61 x 13.2	UCH-12/12.5-D48	UCH Series
	21	**252**	48	36-75	2.25	91		•	•			•			2.3 x 2.4 x 0.52	58.4 x 61 x 13.2	UHP-12/21-D48	UHP Series

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1.5 Watts, High Isolation

PWR13XX Series

- 4kVdc isolation, 8kVdc test voltage
- Barrier 100% production tested
- Low barrier capacitance – 10pF
- Low leakage current – 2µA max.
- 24 pin DIP package
- Internal filtering

Datasheet: C&D PWR13XX Series

V_{OUT}	Vdc	5	12	15	±5	±12	±15			
I_{OUT}	mA	300	125	100	±150	±63	±50			

30 Watts, 1" x 2"

UWR/UEP Series

- Standard 25mm x 50mm package/pinouts
- 1.2-15V outputs @ up to 6A and 30W
- Standard, 2:1, 12V, 24V and 48V inputs
- Full synchronous-rectifier topologies
- Efficiencies to 88%; Noise to 30mVp-p
- Operation to +60/70°C without derating

Datasheet: DATEL UWR, 7-15W; UEP Series

V_{OUT}	Vdc	1.2	1.5	1.8	2	2.5	3.3	5	12	15
I_{OUT}	A	6	6	6	6	6	6	3	1.25	1

Output Voltage	Rated Output Current	Total Output Power	Input Voltage		Isolation Voltage	Efficiency	Package Details									Model Number	Datasheet at www.cd4power.com
			Nom.	Range			Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H) (S = SIP package option) Inches	mm	
Vdc	A	W	Vdc	Vdc	kVdc	%											
15V	0.016	0.25	5	4.5-5.5	1	75		•					•	•	0.24 x 0.45 x 0.39 (S)	6 x 11.5 x 10 (S)	LME0515	LME Series
			12	10.8-13.2	1	75		•					•	•	0.24 x 0.45 x 0.39 (S)	6 x 11.5 x 10 (S)	LME1215	
	0.05	0.75	5	4.5-5.5	0.75	71	•	•					•	•	0.24 x 0.77 x 0.4 (S)	6.1 x 19.6 x10.2 (S)	HPR102	HPR1XX Series
			12	10.8-13.2	0.75	77	•	•					•	•	0.24 x 0.77 x 0.4 (S)	6.1 x 19.6 x10.2 (S)	HPR108	
			15	13.5-16.5	0.75	69	•	•					•	•	0.24 x 0.77 x 0.4 (S)	6.1 x 19.6 x10.2 (S)	HPR114	
			24	21.6-26.4	0.75	76	•	•					•	•	0.24 x 0.77 x 0.4 (S)	6.1 x 19.6 x10.2 (S)	HPR120	
	0.066	1	3.3	2.97-3.63	1	77	•								0.44 x 0.5 x 0.26	11.2 x 12.7 x 6.6	NTE0315M	NTE Series
			5	4.5-5.5	3.5	73	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HB01U05S15	HB01U Series
					3	78		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMV0515xA	NMV Series
						78		•					•	•	0.24 x 0.45 x 0.3 (S)	6 x 11.5 x 7.5 (S)	NKE0515	NKE Series
					1	80		•					•	•	0.24 x 0.45 x 0.39 (S)	6 x 11.5 x 10 (S)	NME0515	NME Series
						78	•								0.44 x 0.5 x 0.26	11.2 x 12.7 x 6.6	NTE0515M	NTE Series
				4.75-5.25	1	62		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMF0515	NMF Series
			12	10.8-13.2	3.5	73	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HB01U12S15	HB01U Series
					3	77		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMV1215xA	NMV Series
						81		•					•	•	0.24 x 0.45 x 0.3 (S)	6 x 11.5 x 7.5 (S)	NKE1215	NKE Series
					1	75		•					•	•	0.24 x 0.45 x 0.39 (S)	6 x 11.5 x 10 (S)	NME1215	NME Series
							•								0.44 x 0.5 x 0.26	11.2 x 12.7 x 6.6	NTE1215M	NTE Series
				11.4-12.6	1	62		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMF1215	NMF Series
			15	13.5-16.5	3.5	73	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HB01U15S15	HB01U Series
	0.066	1	24	20-30	3.5	73	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HB01U24S15	HB01U Series
				21.6-26.4	3	80		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMV2415xA	NMV Series
					1	80		•					•	•	0.24 x 0.45 x 0.39 (S)	6 x 11.5 x 10 (S)	NME2415	NME2 Series
				22.8-25.2	1	62		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMF2415	NMF Series
			48	43.2-52.8	3	70		•					•	•	0.30 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMV4815xA	NMV Series
					1	80		•					•	•	0.30 x 0.45 x 0.39 (S)	7.5 x 11.5 x 10 (S)	NME4815	NME2 Series
				45.6-50.4	1	62		•					•	•	0.30 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMF4815	NMF Series
	0.1	1.5	5	4.5-5.5	8	75		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	PWR1302A	PWR13XX Series
			12	10.8-13.2	8	75		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	PWR1308A	
			15	13.5-16.5	8	75		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	PWR1314A	
	0.125	2	24	9-36	1.5	77		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	WFC02R24S15	WFC02 Series
			48	18-72	1.5	76		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	WFC02R48S15	
	0.133	2	5	4.5-9	1	73		•						•	0.36 x 0.86 x 0.44	9.2 x 21.8 x 11.1	NDL0515S	NDL Series
				4.5-5.5	1	83		•						•	0.3 x 0.55 x 0.39	7.5 x 14.0 x 10	NML0515S	NML Series
				4.75-5.25	0.5	83	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02U05S15	HL02U Series
						69	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02R05S15	HL02R Series
			12	9-18	1	81		•						•	0.36 x 0.86 x 0.44	9.2 x 21.8 x 11.1	NDL1215S	NDL Series
				10.8-13.2	1	85		•						•	0.3 x 0.55 x 0.39	7.5 x 14.0 x 10	NML1215S	NML Series
				11.4-12.6	0.5	79	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02U12S15	HL02U Series
						67	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02R12S15	HL02R Series
			15	14.25-15.75	0.5	78	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02U15S15	HL02U Series
						67	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02R15S15	HL02R Series
			24	18-36	1	83		•						•	0.36 x 0.86 x 0.44	9.2 x 21.8 x 11.1	NDL2415S	NDL Series
				22.8-25.2	0.5	78	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02U24S15	HL02U Series
						67	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02R24S15	HL02R Series
			48	36-72	1	82		•						•	0.36 x 0.86 x 0.44	9.2 x 21.8 x 11.1	NDL4815S	NDL Series
	0.2	3	5	4.5-9	1	73		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDY0515	NDY Series
						75		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	UST-15/200-D5	UST, 3W
					0.5	75		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	UWP-15/200-D5	UWP, 3W
			12	9-18	1	79		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDTS1215	NDTS Series
			12	9-18	1	79		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDY1215	NDY Series
			12	9-18	1	75		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	UST-15/200-D12	UST, 3W
					0.5	74		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	UWP-15/200-D12	UWP, 3W
			24	18-36	1	82		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDTS2415	NDTS Series

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Output Voltage	Rated Output Current	Total Output Power	Input Voltage		Isolation Voltage	Efficiency	Package Details										Model Number	Datasheet at www.cd4power.com
			Nom.	Range			Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H) (S = SIP package option) Inches	mm		
Vdc	A	W	Vdc	Vdc	kVdc	%												
15V	0.2	3	24	18-36	1	82		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDY2415	NDY Series
			48	18-72	1	77		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	UST-15/200-D48	UST, 3W
					0.5	77		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	UWP-15/200-D48	UWP, 3W
				36-72	1	81		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDY4815	NDY Series
	0.267	4	5	4.5-5.5	8	80		•							1 x 2 x 0.4	25.4 x 50.8 x 10.2	HB04U05S15Q	HB04U Series
			12	10.8-13.2	8	87		•							1 x 2 x 0.4	25.4 x 50.8 x 10.2	HB04U12S15Q	
			15	13.5-16.5	8	87		•							1 x 2 x 0.4	25.4 x 50.8 x 10.2	HB04U15S15Q	
	0.335	5	12	9-18	1.5	77		•					•		0.79 x 1.26 x 0.39	20 x 32 x 10	WP06R12S15	WP06R Series
			24	18-36	1	80		•							1 x 1 x 0.45	25.4 x 25.4 x 11.4	UWR-15/335-D24	UWR, 5W
			48	36-72	1	80		•							1 x 1 x 0.45	25.4 x 25.4 x 11.4	UWR-15/335-D48	UWR, 5W
	0.4	6	24	18-36	1.5	80		•					•		0.79 x 1.26 x 0.39	20 x 32 x 10	WP06R24S15	WP06R Series
			48	34-75	1	81		•					•		0.79 x 1.26 x 0.39	20 x 32 x 10	WP06R48S15	
	0.53	8	5	4.7-7.25	1.5	77		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	UWR-15/530-D5A	A-Series, UWR 6-10W
	0.6	9	48	18-75	1.5	84		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	UWR-15/600-D48A	A-Series, UWR 6-10W
	0.665	10	12	9-18	1.5	85		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	UWR-15/665-D12A	A-Series, UWR 6-10W
	0.67	10	24	18-36	1.5	86		•							1 x 1.26 x 0.39	25 x 32 x 10	NPH10S2415I	NPH10 Series
			48	36-75	1.5	87		•							1 x 1.26 x 0.39	25 x 32 x 10	NPH10S4815I	
	1	15	5	4.7-7.5	1.5	82		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	UWR-15/1000-D5A	A-Series, UWR 14-20W
			12	10-18	1.5	85		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-15/1000-D12A	A-Series, UWR 7-15W
			24	18-36	1.5	87		•							1 x 2 x 0.4	25 x 50 x 10	NPH15S2415I	NPH15 Series
						87		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-15/1000-D24A	A-Series, UWR 7-15W
			48	36-75	1.5	89		•							1 x 2 x 0.4	25 x 50 x 10	NPH15S4815I	NPH15 Series
						87		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UWR-15/1000-D48A	A-Series, UWR 7-15W
	1.2	18	12	10-18	1.5	85		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UEP-15/1200-D12	UEP Series
			24	18-36	1.5	87		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UEP-15/1200-D24	
			48	36-75	1.5	87		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	UEP-15/1200-D48	
	1.3	19.5	24	9-36	1.5	85		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	UWR-15/1300-D12A	A-Series, UWR 14-20W
			48	18-75	1.5	86		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	UWR-15/1300-D48A	
	1.33	20	12	9-18	1.5	86		•							1.6 x 2 x 0.43	40.4 x 50.6 x 10.8	WPN20R12S15	WPN20 Series
			24	18-36	1.5	87		•							1.6 x 2 x 0.43	40.4 x 50.6 x 10.8	WPN20R24S15	
			48	33-75	1.5	86		•							1.6 x 2 x 0.43	40.4 x 50.6 x 10.8	WPN20R48S15	
	1.7	25	24	18-36	1.5	87		•							1.4 x 2 x 0.39	35 x 50 x 10	NPH25S2415I	NPH25 Series
			48	36-75	1.5	89		•							1.4 x 2 x 0.39	35 x 50 x 10	NPH25S4815I	
	2	30	12	9-18	1.5	89		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-15/2000-D12	UHE, 12-30W
				9-36	1.5	88		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-15/2000-Q12	
			24	18-36	1.5	90		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-15/2000-D24	
			48	18-75	1.5	90.5		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-15/2000-Q48	
				36-75	1.5	92		•							1.6 x 2 x 0.4	40.6 x 50.8 x 10.2	UHE-15/2000-D48	
	3.3	49.5	24	18-36	1.5	89		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA50LS15	VKA50 Series
			48	33-75	1.5	90		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA50MS15	
	4	60	24	18-36	1.5	89		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA60LS15	VKA60 Series
			48	33-75	1.5	90		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA60MS15	
	5	75	24	18-36	1.5	89		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA75LS15	VKA75 Series
			48	33-75	1.5	90		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA75MS15	
	6.7	100.5	24	18-36	1.5	89		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA100LS15	VKA100 Series
			48	33-75	1.5	90		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA100MS15	
	10	150	48	33-75	1.5	89		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA150MS15	VKA150 Series
18V	5.6	101	24	18-36	2.25	92		•	•		•				1.45 x 2.3 x 0.45	36.8 x 58.4 x 11.4	UVQ-18/5.6-D24P	UVQ Series
	6	108	48	36-75	2.25	92		•	•		•				1.45 x 2.3 x 0.45	36.8 x 58.4 x 11.4	UVQ-18/6-D48N	UVQ Series
24V	0.042	1	5	4.5-5.5	1	80		•					•	•	0.24 x 0.45 x 0.39 (S)	6 x 11.5 x 10 (S)	NME0524	NME Series
	2.1	50.4	24	18-36	1.5	90		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA50LS24	VKA50 Series
			48	33-75	1.5	90		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA50MS24	
	2.5	60	24	18-36	1.5	90		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA60LS24	VKA60 Series
			48	33-75	1.5	90		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA60MS24	
				36-75	2	90		•				•			2.3 x 2.4 x 0.42	58.4 x 61 x 10.7	UCP-24/2.5-D48	UCP, 60/72W
	3.1	74.4	24	18-36	1.5	90		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA75LS24	VKA75 Series
			48	33-75	1.5	90		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA75MS24	
	4.2	100.8	24	18-36	1.5	90		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA100LS24	VKA100 Series
			48	33-75	1.5	90		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA100MS24	
	4.5	108	48	36-75	2.25	92		•	•		•				1.45 x 2.3 x 0.45	36.8 x 58.4 x 11.4	UVQ-24/4.5-D48N	UVQ Series
	6.25	150	48	33-76	1.5	90		•				•			2.28 x 2.4 x 0.53	57.9 x 61 x 13.5	VKA150MS24	VKA150 Series
28.2V	12	338.4	48	36-75	2.25	92		•	•			•			2.3 x 2.4 x 0.52	58.4 x 61 x 13.2	UHP-28.2/12-D48	UHP Series
48V	1.5	72	48	36-75	2	92		•	•			•			2.3 x 2.4 x 0.42	58.4 x 61 x 10.7	UCP-48/1.5-D48	UCP, 60/72W
	2.5	120	48	36-75	2.25	92		•	•		•				1.45 x 2.3 x 0.45	36.8 x 58.4 x 11.4	UVQ-48/2.5-D48N	UVQ Series

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Bus Converters

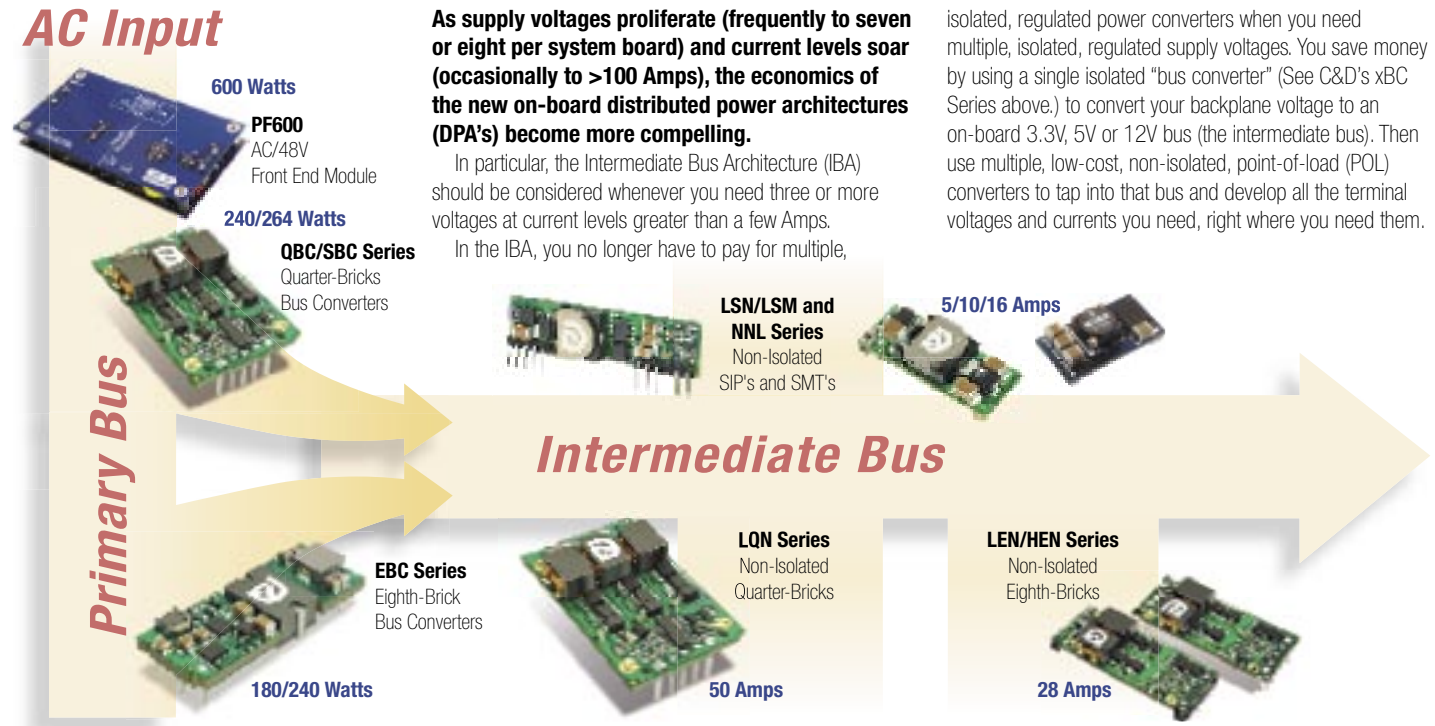
Realizing the full, high-efficiency, cost-saving potential of the new Intermediate Bus Architecture (see below.) starts with selecting the best bus converter.

Also known as "dc transformers," bus converters are unregulated DC/DC's that convert an available backplane voltage (typically 48Vdc for telecom/datacom applications) into an effective on-board bus voltage (typically 8-12 Volts). By sacrificing wide input voltage ranges and full line/load regulation, bus converters can lower overall system costs and boost efficiency.

C&D Technologies' bus converters deliver the critical step-down (4:1, 5:1 or 6:1), isolation (2250Vdc guaranteed), and insulation (UL/EN60950 BASIC) functions in standard 1/8 and 1/4-brick packages. They operate over the full ETS 300 132-2 input range of 40.5 to 57 Volts (Typical usage may be over more narrow 48V ±10% ranges.) and boast full-load efficiencies of 94-96%. A great IBA starts right here.

Output Voltage	Rated Output Current	Total Output Power	Input Voltage		Isolation Voltage	Efficiency	Package Details										Model Number	Datasheet at www.cd4power.com
			Nom.	Range			Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H) (S = SIP package option) Inches	mm		
Vdc	A	W	Vdc	Vdc	kVdc	%												
8V	16	128	48	38-55	2.25	95		•	•	•					0.9 x 2.3 x 0.41	22.9 x 58.4 x 10.4	EBC-8/16-L48	EBC, 128W
	30	240	48	36-55	2.25	96		•	•	•					2.28 x 0.9 x 0.48	57.9 x 22.9 x 12.2	EUS30-080-xHyR	EUS30-080
			48	36-55	2	96		•	•		•				2.3 x 1.45 x 0.45	57.9 x 36.8 x 11.4	QUS30-080-xHyR	QUS30-080
9.6	25	240	48	36-55	2.25	94		•	•	•					2.28 x 0.9 x 0.48	57.9 x 22.9 x 12.2	EUS25-096-0y	EUS25-096
			48	36-55	2	97		•	•		•				2.3 x 1.45 x 0.45	58.4 x 36.8 x 11.4	QUS25-096-xHyR	QUS25-096
	42	460	48	36-55	2	97		•	•			•			2.3 x 2.4 x 0.45	58.4 x 61 x 11.4	HUS42-096-xHyR	HUS42-096
12V	15	180	48	36-55	2.25	96		•	•	•					2.28 x 0.9 x 0.48	57.9 x 22.9 x 12.2	EUS15-120-xHyR	EUS15-120
	22	264	48	40.5-57	2.25	95		•	•		•				1.45 x 2.3 x 0.5	36.8 x 58.4 x 12.7	QBC-12/22-L48	QBC Series
	20	240	48	36-55	2.25	96		•	•	•					2.28 x 0.9 x 0.48	57.9 x 22.9 x 12.2	EUS20-120-xHyR	EUS20-120
			48	36-55	2	96		•	•		•				2.3 x 1.45 x 0.45	58.4 x 36.8 x 11.4	QUS20-120-xHyR	QUS20-120
			48	36-55	2	96		•	•					•	0.38 x 2.5 x 1.25	9.7 x 63.5 x 31.8	QUS20-120-xVyR	QUS20-120 Vertical
	20	240	48	40.5-57	2.25	95		•	•					•	1.25 x 2.5 x 0.47	31.8 x 63.5 x 11.8	SBC-12/22-L48	SBC Series
	21	240	48	41-57	2.25	94		•	•	•					0.9 x 2.3 x 0.5	22.9 x 58.4 x 12.7	EBC-12/22-L48	EBC, 240W
	15	180	48	40.5-57	2.25	95		•	•	•					0.9 x 2.3 x 0.41	22.9 x 58.4 x 10.4	EBC-12/15-L48	EBC, 180W
10.5-13.25V	17	200	48	42-53	1.5	96	•	•					•		1.26 x 0.85 x 0.24	32 x 21.5 x 6	BC048x120y20	BC048A120T20

Intermediate Bus Architecture



As supply voltages proliferate (frequently to seven or eight per system board) and current levels soar (occasionally to >100 Amps), the economics of the new on-board distributed power architectures (DPA's) become more compelling.

In particular, the Intermediate Bus Architecture (IBA) should be considered whenever you need three or more voltages at current levels greater than a few Amps.

In the IBA, you no longer have to pay for multiple, isolated, regulated power converters when you need multiple, isolated, regulated supply voltages. You save money by using a single isolated "bus converter" (See C&D's xBC Series above.) to convert your backplane voltage to an on-board 3.3V, 5V or 12V bus (the intermediate bus). Then use multiple, low-cost, non-isolated, point-of-load (POL) converters to tap into that bus and develop all the terminal voltages and currents you need, right where you need them.

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Point-of-Load (Non-Isolated) DC/DC Converters

C&D Technologies is committed to supporting the emerging Intermediate Bus Architecture (IBA) and its many derivative approaches. Consequently, we offer more non-isolated, point-of-load (POL) DC/DC's, in standard packages and pinouts, than any other company.

Our POL output voltages range from 0.75 to 5V . . . at current levels from 0.5 to 50A. Input voltages are centered around traditional 3.3, 5 and 12V levels, with some devices operating from 7.5 to 36V. Standard packages include SMT models (6-16A), SIP's (6-16 A), and new 1/8-bricks (28A) and 1/4-bricks (50A).

The newest SMT and SIP models offer user-selectable outputs (0.75-5V) while operating from wide-range inputs (2.4-5.5V or 8.3-14V). For many applications, they can be genuine "one-size-fits-all" solutions.

And POL's are not just for IBA's. Many designers find them a quick, cost-effective solution when isolation is not required and in-house designs are too expensive and time consuming.

Output Voltage	Rated Output Current	Total Output Power	Input Voltage		Efficiency	Package Details										Model Number	Datasheet at www.cd4power.com
			Nom.	Range		Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H) (S = SIP package option) Inches	mm		
Vdc	A	W	Vdc	Vdc	%												
User Selectable Output Voltages																	
0.75-3.3V (User Selectable)	5	16.5	3.3/5	3-5.5	94	•		•						0.45 x 0.8 x 0.26	11.4 x 20.3 x 6.6	NNL05-9	NNL05 Series
			5	3-5.5	94		•	•					•	0.9 x 0.22 x 0.4	22.9 x 5.6 x 10.2	NCA005133xB0	NCA005
						•		•						0.8 x 0.45 x 0.24	20.3 x 11.4 x 6.1	NCA005133xS0	
	6	19.8	2.5/3.3/5	2.4-5.5	94		•	•					•	0.263 x 1 x 0.5	6.7 x 25.4 x 12.7	LSN2-T/6-W3	LSN2-6A, W3
						•		•						0.45 x 1.1 x 0.29	11.4 x 27.9 x 7.5	LSM2-T/6-W3	LSM2-6A, W3
	10	33	2.5/3.3/5	2.4-5.5	95		•	•					•	0.263 x 1 x 0.5	6.7 x 25.4 x 12.7	LSN2-T/10-W3	LSN2-10A, W3
						•		•						0.53 x 1.3 x 0.33	13.5 x 33 x 8.3	LSM2-T/10-W3	LSM2-10A, W3
	15	50	5	3-5.5	94		•	•					•	2.0 x 0.33 x 0.5	50.8 x 8.30 x 12.7	NCA015133xB0	NCA015
						•		•						1.3 x 0.53 x 0.37	33 x 13.46 x 9.4	NCA015133xS0	
	16	52.8	2.5/3.3/5	2.4-5.5	95		•	•					•	0.263 x 1 x 0.5	6.7 x 25.4 x 12.7	LSN2-T/16-W3	LSN2-16A, W3
						•		•						0.53 x 1.3 x 0.33	13.5 x 33 x 8.3	LSM2-T/16-W3	LSM2-16A, W3
			3.3/5	3-5.5	95		•	•					•	0.37 x 2 x 0.5	9.4 x 50.8 x 12.7	LSN-T/16-W3	LSN-16A, W3
						•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-T/16-W3	LSM-16A, W3
0.75-5V (User Selectable)	5	16.5	5	3-5.5	94		•	•					•	0.9 x 0.22 x 0.4	22.9 x 5.6 x 10.2	NCA005133xB0	NCA005
						•		•						0.8 x 0.45 x 0.24	20.3 x 11.4 x 6.1	NCA005133xS0	
		25	12	10.8-13.2	95	•		•						0.45 x 0.8 x 0.26	11.4 x 20.3 x 6.6	NNL05-10	NNL05
	6	30	12	8.3-14	95		•	•					•	0.263 x 1 x 0.5	6.7 x 25.4 x 12.7	LSN2-T/6-D12	LSN2-6A, D12
						•		•						0.45 x 1.1 x 0.29	11.4 x 27.9 x 7.5	LSM2-T/6-D12	LSM2-6A, D12
	10	50	12	6-14	94		•	•					•	2.0 x 0.33 x 0.5	50.8 x 8.3 x 13	NFA010150xB0	NFA010
						•		•					•	1.3 x 0.53 x 0.33	33 x 13.5 x 9.3	NFA010150xS0	
				8.3-14	95		•	•					•	2 x 0.33 x 0.5	50.8 x 8.3 x 12.7	NEA010150xB0	NEA010
						•		•						1.3 x 0.53 x 0.37	33 x 13.5 x 9.4	NEA010150xS0	
				8.3-14	95		•	•					•	0.263 x 1 x 0.5	6.7 x 25.4 x 12.7	LSN2-T/10-D12	LSN2-10A, D12
						•		•						0.53 x 1.3 x 0.33	13.5 x 33 x 8.3	LSM2-T/10-D12	LSM2-10A, D12
	16	80	12	8.3-14	94		•	•					•	0.263 x 1 x 0.5	6.7 x 25.4 x 12.7	LSN2-T/16-D12	LSN2-16A, D12
						•		•						0.53 x 1.3 x 0.33	13.5 x 33 x 8.3	LSM2-T/16-D12	LSM2-16A, D12
			12	10-14	95.5		•	•					•	0.37 x 2 x 0.5	9.4 x 50.8 x 12.7	LSN-T/16-D12	LSN-16A, D12
					95	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-T/16-D12	LSM-16A, D12
	20	100	12	6-14	94		•	•					•	2.4 x 0.33 x 0.5	61 x 8.3 x 13	NFA020150xB0	NFA020
						•		•					•	1.7 x 0.53 x 0.37	43.2 x 13.5 x 9.3	NFA020150xS0	
1.2-5V (User Selectable)	2	10	15	4.75-28	92		•	•				•	•	0.22 x 0.83 x 0.85 (S)	5.6 x 21 x 21.5 (S)	NGA10S15025	NGA
	8	40	5 (4.75-5.25) or 12 (10.8-13.2)		90		•	•					•	1.2 x 1.1 x 0.45	30.5 x 28 x 11.4	S007-UV20100-3B	S007
	15	40	12	10.8-12.6	90		•	•					•	1.2 x 0.45 x 1.1	30.5 x 11.4 x 27.9	SV15-UV2010T-A1	SV15
							•	•						1.2 x 1.1 x 0.45	30.5 x 28 x 11.4	SV15-UV3010T-A1	
	16	45	12	10.8-12.6	90		•	•					•	1.2 x 0.45 x 1.1	30 x 11.4 x 27.9	S016-1220120-FB	S016
							•	•						1.2 x 1.1 x 0.45	30.5 x 28 x 11.4	S016-1240120-FB	
	20	55	12	10.8-12.6	93		•	•					•	1.7 x 0.45 x 0.79	43.2 x 11.4 x 20.1	S020-1220120-FB	S020
							•	•						1.7 x 0.79 x 0.475	43.2 x 20.1 x 12.1	S020-1240120-FB	
Fixed Output Voltages																	
0.75	16	12	3.3/5	3-5.5	82	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-0.75/16-W3	LSM-16A, W3
					86		•	•					•	0.36 x 2 x 0.5	9.1 x 50.8 x 12.7	LSN-0.75/16-W3	LSN-16A, W3
			12	10-14	85	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-0.75/16-D12	LSM-16A, D12
					82.5		•	•					•	0.36 x 2 x 0.5	9.1 x 50.8 x 12.7	LSN-0.75/16-D12	LSN-16A, D12
0.8V	10	8	3.3	3-3.6	84	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-0.8/10-D3	LSM-10A, D3
			5	4.5-5.5	84	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-0.8/10-D5	LSM-10A, D5
			12	10.8-13.2	82.5	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-0.8/10-D12	LSM-10A, D12
	25	20	12	10.2-13.8	80.5	•	•	•	•					0.9 x 2.23 x 0.39	22.9 x 56.6 x 9.9	HEN-0.8/25-D12	HEN Series
	28	22.4	12	10.2-13.8	80	•	•	•	•					0.9 x 2.23 x 0.46	22.9 x 56.6 x 11.7	LEN-0.8/28-D12	LEN Series

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28 Amp Eighth Bricks

LEN Series

- New, non-isolated, eighth-brick package
- SMT package option; lead-free
- Output currents to 28A, power to 125W
- 12V nominal input with 10.2-13.8V range
- Efficiencies to 95%; 20-30mVp-p noise
- See HEN Series for high di/dt (50A/µsec)

Datasheet: DATEL LEN series

V_{OUT}	Vdc	0.8	1	1.2	1.5	1.8	2	2.5	3.3	5
I_{OUT}	A	28	28	28	28	28	28	28	28	25

16 Amp SIP's

LSN-16A Series

- Standard SIP package; 0.5"/12.7mm height
- Non-isolated 3-5.5V or 10-14V inputs
- 0.8-5V fixed or 0.75-5V trimmable outputs
- Efficiencies to 96%; noise to 10mVp-p
- 3 vertical/horizontal package options
- UL/EN certified; EMC compliant; lead-free

Datasheet: DATEL LSN-16A, D12/W3

V_{OUT}	Vdc	0.75	1	1.2	1.5	1.8	2	2.5	3.3	5
I_{OUT}	A	16	16	16	16	16	16	16	16	16

Output Voltage	Rated Output Current	Total Output Power	Input Voltage		Efficiency	Package Details										Model Number	Datasheet at www.cd4power.com
			Nom.	Range		Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H) (S = SIP package option) Inches	mm		
Vdc	A	W	Vdc	Vdc	%												
	50	**40**	12	10.2-13.8	83	•	•	•		•				1.35 x 2.22 x 0.44	34.3 x 56.4 x 11.2	LQN-0.8/50-D12	LQN Series
0.9V	**10**	**9**	3.3/5	3-5.5	79.7	•		•						0.53 x 1.3 x 0.33	13.5 x 33 x 8.3	NNL10-1	NNL10 Series
1V	**10**	**10**	3.3	3-3.6	86	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-1/10-D3	LSM-10A, D3
					86.5		•	•					•	0.34 x 2 x 0.5	8.6 x 50.8 x 12.7	LSN-1/10-D3	LSN-10A, D3
			3.3/5	3-5.5	81.8	•		•						0.53 x 1.3 x 0.33	13.5 x 33 x 8.3	NNL10-2	NNL10 Series
			5	3-5.5	86		•	•					•	2 x 0.33 x 0.5	50.8 x 8.3 x 12.7	NCF010010xB0	NCF010
			5	4.5-5.5	85.5	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-1/10-D5	LSM-10A, D5
					86		•	•					•	0.34 x 2 x 0.5	8.6 x 50.8 x 12.7	LSN-1/10-D5	LSN-10A, D5
			12	8-14	84		•	•					•	2 x 0.33 x 0.5	50.8 x 8.3 x 12.7	NEF0100100B0	NEF010
						•		•						1.3 x 0.53 x 0.33	33 x 13.5 x 9.3	NEF0100100S0	
			12	10.8-13.2	85	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-1/10-D12	LSM-10A, D12
					86		•	•					•	0.34 x 2 x 0.55	8.6 x 50.8 x 14	LSN-1/10-D12	LSN-10A, D12
	16	**16**	3.3/5	3-5.5	86	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-1/16-W3	LSM-16A, W3
							•	•					•	0.36 x 2 x 0.5	9.1 x 50.8 x 12.7	LSN-1/16-W3	LSN-16A, W3
			12	10-14	85	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-1/16-D12	LSM-16A, D12
					86		•	•					•	0.36 x 2 x 0.5	9.1 x 50.8 x 12.7	LSN-1/16-D12	LSN-16A, D12
	25	**25**	12	10.2-13.8	82.5	•	•	•	•					0.9 x 2.23 x 0.39	22.9 x 56.6 x 9.9	HEN-1/25-D12	HEN Series
	28	**28**	12	10.2-13.8	82.5	•	•	•	•					0.9 x 2.23 x 0.46	22.9 x 56.6 x 11.7	LEN-1/28-D12	LEN Series
	50	**50**	12	10.2-13.8	85	•	•	•		•				1.35 x 2.22 x 0.44	34.3 x 56.4 x 11.2	LQN-1/50-D12	LQN Series
1.1V	**10**	**11**	12	10.8-13.2	88		•	•					•	0.34 x 2 x 0.55	8.6 x 50.8 x 14	LSN-1.1/10-D12	LSN-10A, D12
1.2V	**10**	**12**	3.3	3-3.6	88	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-1.2/10-D3	LSM-10A, D3
							•	•					•	0.34 x 2 x 0.5	8.6 x 50.8 x 12.7	LSN-1.2/10-D3	LSN-10A, D3
			3.3/5	3-5.5	84.3	•		•						0.53 x 1.3 x 0.33	13.5 x 33 x 8.3	NNL10-3	NNL10 Series
			5	3-5.5	88		•	•					•	2 x 0.33 x 0.5	50.8 x 8.3 x 12.7	NCF010012xB0	NCF010
			5	4.5-5.5	87.5	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-1.2/10-D5	LSM-10A, D5
					88		•	•					•	0.34 x 2 x 0.5	8.6 x 50.8 x 12.7	LSN-1.2/10-D5	LSN-10A, D5
			12	8-14	86		•	•					•	2 x 0.33 x 0.5	50.8 x 8.3 x 12.7	NEF0100120B0	NEF010
						•		•						1.3 x 0.53 x 0.33	33 x 13.5 x 9.3	NEF0100120S0	
			12	10.8-13.2	87	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-1.2/10-D12	LSM-10A, D12
					88		•	•					•	0.34 x 2 x 0.55	8.6 x 50.8 x 14	LSN-1.2/10-D12	LSN-10A, D12
	16	**19.2**	3.3/5	3-5.5	88	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-1.2/16-W3	LSM-16A, W3
							•	•					•	0.36 x 2 x 0.5	9.1 x 50.8 x 12.7	LSN-1.2/16-W3	LSN-16A, W3
			12	10-14	87	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-1.2/16-D12	LSM-16A D12
					89.5		•	•					•	0.36 x 2 x 0.5	9.1 x 50.8 x 12.7	LSN-1.2/16-D12	LSN-16A, D12
	25	**30**	12	10.2-13.8	85	•	•	•	•					0.9 x 2.23 x 0.39	22.9 x 56.6 x 9.9	HEN-1.2/25-D12	HEN Series
	28	**33.6**	12	10.2-13.8	86.5	•	•	•	•					0.9 x 2.23 x 0.46	22.9 x 56.6 x 11.7	LEN-1.2/28-D12	LEN Series
	50	**60**	12	10.2-13.8	87	•	•	•		•				1.35 x 2.22 x 0.44	34.3 x 56.4 x 11.2	LQN-1.2/50-D12	LQN Series
1.25V	**10**	**12.5**	3.3	3-3.6	88		•	•					•	0.34 x 2 x 0.5	8.6 x 50.8 x 12.7	LSN-1.25/10-D3	LSN-10A, D3
1.3V	**10**	**13**	12	10.8-13.2	88		•	•					•	0.34 x 2 x 0.55	8.6 x 50.8 x 14	LSN-1.3/10-D12	LSN-10A, D12
1.5V	**10**	**15**	3.3	3-3.6	90	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-1.5/10-D3	LSM-10A, D3
							•	•					•	0.34 x 2 x 0.5	8.6 x 50.8 x 12.7	LSN-1.5/10-D3	LSN-10A, D3
			3.3/5	3-5.5	86.5	•		•						0.53 x 1.3 x 0.33	13.5 x 33 x 8.3	NNL10-4	NNL10 Series
			5	3-5.5	89		•	•					•	2 x 0.33 x 0.5	50.8 x 8.3 x 12.7	NCF010015xB0	NCF010
				4.5-5.5	89.5	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-1.5/10-D5	LSM-10A, D5
					90		•	•					•	0.34 x 2 x 0.5	8.6 x 50.8 x 12.7	LSN-1.5/10-D5	LSN-10A, D5
			12	8-14	89		•	•					•	2 x 0.33 x 0.5	50.8 x 8.3 x 12.7	NEF0100150B0	NEF010
						•		•						1.3 x 0.53 x 0.33	33 x 13.5 x 9.3	NEF0100150S0	

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5 Amp SMD's

NNL05 Series

- Industry-standard SMD footprint
- Short-circuit protection
- High efficiency – to 94%
- Under voltage lock out
- Fully adjustable output voltage
- Ideal for automated assembly

Datasheet: C&D NNL05 Series

V_{OUT}	Vdc	0.75	1.2	1.5	1.8	2.5	3.3	5.0		
I_{OUT}	A	5	5	5	5	5	5	5		

50 Amp Quarter Bricks

LQN Series

- New, non-isolated, Q-brick package
- SMT package option; Lead-free
- 3-phase buck regulators for 12V DPA's
- Output currents to 50A, power to 225W
- 12V nominal input with 10.2-13.8V range
- Efficiencies to 95%; 20-30mVp-p noise

Datasheet: DATEL LQN Series

V_{OUT}	Vdc	0.8	1	1.2	1.5	1.8	2	2.5	3.3	5
I_{OUT}	A	50	50	50	50	50	50	45	45	45

Output Voltage	Rated Output Current	Total Output Power	Input Voltage		Efficiency	Package Details										Model Number	Datasheet at www.cd4power.com
			Nom.	Range		Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H) (S = SIP package option) Inches	mm		
Vdc	A	W	Vdc	Vdc	%												
1.5V	10	15	12	10.8-13.2	88.5	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-1.5/10-D12	LSM-10A, D12
					89		•	•					•	0.34 x 2 x 0.55	8.6 x 50.8 x 14	LSN-1.5/10-D12	LSN-10A, D12
	16	24	3.3/5	3-5.5	90	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-1.5/16-W3	LSM-16A, W3
							•	•					•	0.36 x 2 x 0.5	9.1 x 50.8 x 12.7	LSN-1.5/16-W3	LSN-16A, W3
			12	10-14	88.5	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-1.5/16-D12	LSM-16A, D12
					88		•	•					•	0.36 x 2 x 0.5	9.1 x 50.8 x 12.7	LSN-1.5/16-D12	LSN-16A, D12
	20	30	5	4.75-5.5	84		•	•						2 x 2 x 0.49	50.8 x .50.8 x 12.5	UNR-1.5/20-D5	UNR, 30-66W
	25	37.5	12	10.2-13.8	87	•	•	•	•					0.9 x 2.23 x 0.39	22.9 x 56.6 x 9.9	HEN-1.5/25-D12	HEN Series
	28	42	12	10.2-13.8	88	•	•	•	•					0.9 x 2.23 x 0.46	22.9 x 56.6 x 11.7	LEN-1.5/28-D12	LEN Series
	50	75	12	10.2-13.8	88	•	•	•		•				1.35 x 2.22 x 0.44	34.3 x 56.4 x 11.2	LQN-1.5/50-D12	LQN Series
1.8V	2	3.6	5	4.75-5.5	79	•	•							1 x 1 x 0.45	25.4 x 25.4 x 11.4	UNR-1.8/2-D5	UNR, 3.6-10W
			15	4.75-28	89		•	•				•	•	0.22 x 0.83 x 0.85 (S)	5.6 x 21 x 21.5 (S)	NGA10S15018	NGA Series
	10	18	3.3	3-3.6	91.5	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-1.8/10-D3	LSM-10A, D3
							•	•					•	0.34 x 2 x 0.5	8.6 x 50.8 x 12.7	LSN-1.8/10-D3	LSN-10A, D3
			3.3/5	3-5.5	88.2	•		•						0.53 x 1.3 x 0.33	13.5 x 33 x 8.3	NNL10-5	NNL10 Series
			5	3-5.5	91		•	•					•	2 x 0.33 x 0.5	50.8 x 8.3 x 12.7	NCF010018xB0	NCF010
			5	4.5-5.5	91	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-1.8/10-D5	LSM-10A, D5
					91.5		•	•					•	0.34 x 2 x 0.5	8.6 x 50.8 x 12.7	LSN-1.8/10-D5	LSN-10A, D5
			12	8-14	90		•	•					•	2 x 0.33 x 0.5	50.8 x 8.3 x 12.7	NEF0100180B0	NEF010
						•		•						1.3 x 0.53 x 0.33	33 x 13.5 x 9.3	NEF0100180S0	
			12	10.8-13.2	90	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-1.8/10-D12	LSM-10A, D12
					90.5		•	•					•	0.34 x 2 x 0.55	8.6 x 50.8 x 14	LSN-1.8/10-D12	LSN-10A, D12
	16	28.8	3.3/5	3-5.5	91.5	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-1.8/16-W3	LSM-16A, W3
							•	•					•	0.36 x 2 x 0.5	9.1 x 50.8 x 12.7	LSN-1.8/16-W3	LSN-16A, W3
			12	10-14	90	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-1.8/16-D12	LSM-16A, D12
					90.5		•	•					•	0.36 x 2 x 0.5	9.1 x 50.8 x 12.7	LSN-1.8/16-D12	LSN-16A, D12
	20	36	5	4.75-5.5	85		•	•						2 x 2 x 0.49	50.8 x .50.8 x 12.5	UNR-1.8/20-D5	UNR, 30-66W
	25	45	12	10.2-13.8	88	•	•	•	•					0.9 x 2.23 x 0.39	22.9 x 56.6 x 9.9	HEN-1.8/25-D12	HEN Series
	28	50.4	12	10.2-13.8	90	•	•	•	•					0.9 x 2.23 x 0.46	22.9 x 56.6 x 11.7	LEN-1.8/28-D12	LEN Series
	50	90	12	10.2-13.8	89.5	•	•	•		•				1.35 x 2.22 x 0.44	34.3 x 56.4 x 11.2	LQN-1.8/50-D12	LQN Series
2V	10	20	3.3	3-3.6	92.5	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-2/10-D3	LSM-10A, D3
							•	•					•	0.34 x 2 x 0.5	8.6 x 50.8 x 12.7	LSN-2/10-D3	LSN-10A, D3
			3.3/5	3-5.5	89.2	•		•						0.53 x 1.3 x 0.33	13.5 x 33 x 8.3	NNL10-6	NNL10 Series
			5	3-5.5	92		•	•					•	2 x 0.33 x 0.5	50.8 x 8.3 x 12.7	NCF010020xB0	NCF010
			5	4.5-5.5	92	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-2/10-D5	LSM-10A, D5
					92.5		•	•					•	0.34 x 2 x 0.5	8.6 x 50.8 x 12.7	LSN-2/10-D5	LSN-10A, D5
			12	8-14	91		•	•					•	2 x 0.33 x 0.5	50.8 x 8.3 x 12.7	NEF0100200B0	NEF010
						•		•						1.3 x 0.53 x 0.33	33 x 13.5 x 9.3	NEF0100200S0	
				10.8-13.2	91	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-2/10-D12	LSM-10A, D12
							•	•					•	0.34 x 2 x 0.55	8.6 x 50.8 x 14	LSN-2/10-D12	LSN-10A, D12
	16	32	3.3/5	3-5.5	92.5	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-2/16-W3	LSM-16A, W3
							•	•					•	0.36 x 2 x 0.5	9.1 x 50.8 x 12.7	LSN-2/16-W3	LSN-16A, W3
			12	10-14	91	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-2/16-D12	LSM-16A, D12
					91.2		•	•					•	0.36 x 2 x 0.5	9.1 x 50.8 x 12.7	LSN-2/16-D12	LSN-16A, D12
2V	25	50	12	10.2-13.8	88.5	•	•	•	•					0.9 x 2.23 x 0.39	22.9 x 56.6 x 9.9	HEN-2/25-D12	HEN Series
	28	56	12	10.2-13.8	90	•	•	•	•					0.9 x 2.23 x 0.46	22.9 x 56.6 x 11.7	LEN-2/28-D12	LEN Series
	50	100	12	10.2-13.8	90	•	•	•		•				1.35 x 2.22 x 0.44	34.3 x 56.4 x 11.2	LQN-2/50-D12	LQN Series
2.5V	2	5	5	4.75-5.5	85	•	•							1 x 1 x 0.45	25.4 x 25.4 x 11.4	UNR-2.5/2-D5	UNR, 3.6-10W
			15	4.75-28	92		•	•				•	•	0.22 x 0.83 x 0.85 (S)	5.6 x 21 x 21.5 (S)	NGA10S15025	NGA Series
	10	25	3.3	3-3.6	93.5	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-2.5/10-D3	LSM-10A, D3
					94		•	•					•	0.34 x 2 x 0.5	8.6 x 50.8 x 12.7	LSN-2.5/10-D3	LSN-10A, D3

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Selectable, Non-Isolated POL's

NCA, NEA, NFA Series

- V_{OUT} programmable by external resistor
- Available in SIP and SMT packages
- Positive and negative enable logic
- Wide input voltage ranges
- Excellent thermal derating

Datasheet: NCA, NEA, NFA Series

V_{OUT}	Vdc	0.75-5	0.75-5	0.75-5			
I_{OUT}	A	5	10	16			

Fixed, Non-Isolated POL's

NCF, NEF Series

- Industry-standard packages/pinouts
- Fixed-output 10A models
- Available in SIP and SMT packages
- Positive and negative enable logic
- Wide input voltage ranges

Datasheet: NCF, NEF Series

V_{OUT}	Vdc	1	1.2	1.5	1.8	2	2.5	3.3	5	
I_{OUT}	A	10	10	10	10	10	10	10	10	

Output Voltage	Rated Output Current	Total Output Power	Input Voltage		Efficiency	Package Details								Dimensions (W x L x H) (S = SIP package option)		Model Number	Datasheet at www.cd4power.com
			Nom.	Range		Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Inches	mm		
Vdc	A	W	Vdc	Vdc	%												
2.5V	**10**	**25**	3.3/5	3-5.5	91.2	•		•						0.53 x 1.3 x 0.33	13.5 x 33 x 8.3	NNL10-7	NNL10 Series
			5	3-5.5	93		•	•					•	2 x 0.33 x 0.5	50.8 x 8.3 x 12.7	NCF010025xB0	NCF010
			5	4.5-5.5	93.5	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-2.5/10-D5	LSM-10A, D5
					94		•	•					•	0.34 x 2 x 0.5	8.6 x 50.8 x 12.7	LSN-2.5/10-D5	LSN-10A, D5
			12	8-14	92		•	•					•	2 x 0.33 x 0.5	50.8 x 8.3 x 12.7	NEF0100250B0	NEF010
						•		•						1.3 x 0.53 x 0.33	33 x 13.5 x 9.3	NEF0100250S0	
			12	10.8-13.2	92.5	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-2.5/10-D12	LSM-10A, D12
							•	•					•	0.34 x 2 x 0.55	8.6 x 50.8 x 14	LSN-2.5/10-D12	LSN-10A, D12
	15	**37.5**	5	4.75-5.5	89		•	•						2 x 2 x 0.49	50.8 x .50.8 x 12.5	UNR-2.5/15-D5	UNR, 30-66W
	16	**40**	3.3/5	3-5.5	93.5	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-2.5/16-W3	LSM-16A, W3
							•	•					•	0.36 x 2 x 0.5	9.1 x 50.8 x 12.7	LSN-2.5/16-W3	LSN-16A, W3
			12	10-14	92	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-2.5/16-D12	LSM-16A, D12
					92.5		•	•					•	0.36 x 2 x 0.5	9.1 x 50.8 x 12.7	LSN-2.5/16-D12	LSN-16A, D12
	20	**50**	5	4.75-5.5	86		•	•						2 x 2 x 0.49	50.8 x .50.8 x 12.5	UNR-2.5/20-D5	UNR, 30-66W
	25	**62.5**	12	10.2-13.8	90	•	•	•	•					0.9 x 2.23 x 0.39	22.9 x 56.6 x 9.9	HEN-2.5/25-D12	HEN Series
	28	**70**	12	10.2-13.8	91	•	•	•	•					0.9 x 2.23 x 0.46	22.9 x 56.6 x 11.7	LEN-2.5/28-D12	LEN Series
	45	**112.5**	12	10.2-13.8	91.5	•	•	•		•				1.35 x 2.22 x 0.44	34.3 x 56.4 x 11.2	LQN-2.5/45-D12	LQN Series
3.3V	**0.5**	**1.7**	12	7.5-36	82		•	•					•	0.4 x 0.41 x 0.75	10.2 x 10.4 x 19.1	7803SR	78xxSR Series
	2	**6.6**	15	4.75-28	94		•	•				•	•	0.22 x 0.83 x 0.85 (S)	5.6 x 21 x 21.5 (S)	NGA10S15033	NGA
	3	**9.9**	5	4.75-5.5	88	•	•							1 x 1 x 0.45	25.4 x 25.4 x 11.4	UNR-3.3/3-D5	UNR, 3.6-10W
			12	10.8-13.6	89	•	•							1 x 1 x 0.45	25.4 x 25.4 x 11.4	UNR-3.3/3-D12	UNR, 3.6-10W
	10	**33**	3.3/5	3-5.5	92.1	•		•						0.53 x 1.3 x 0.33	13.5 x 33 x 8.3	NNL10-8	NNL10
			5	3-5.5	95		•	•					•	2 x 0.33 x 0.5	50.8 x 8.3 x 12.7	NCF010033xB0	NCF010
			5	4.5-5.5	95	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-3.3/10-D5	LSM-10A, D5
							•	•					•	0.34 x 2 x 0.5	8.6 x 50.8 x 12.7	LSN-3.3/10-D5	LSN-10A, D5
			12	8-14	93		•	•					•	2 x 0.33 x 0.5	50.8 x 8.3 x 12.7	NEF0100330B0	NEF010
						•		•						1.3 x 0.53 x 0.33	33 x 13.5 x 9.3	NEF0100330S0	
			12	10.8-13.2	94	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-3.3/10-D12	LSM-10A, D12
							•	•					•	0.34 x 2 x 0.55	8.6 x 50.8 x 14	LSN-3.3/10-D12	LSN-10A, D12
	15	**49.5**	5	4.75-5.5	91		•	•						2 x 2 x 0.49	50.8 x .50.8 x 12.5	UNR-3.3/15-D5	UNR, 30-66W
	16	**52.8**	3.3/5	3-5.5	95	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-3.3/16-W3	LSM-16A W3
							•	•					•	0.36 x 2 x 0.5	9.1 x 50.8 x 12.7	LSN-3.3/16-W3	LSN-16A, W3
			12	10-14	94	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-3.3/16-D12	LSM-16A D12
					94.5		•	•					•	0.36 x 2 x 0.5	9.1 x 50.8 x 12.7	LSN-3.3/16-D12	LSN-16A, D12
	20	**66**	5	4.75-5.5	89		•	•						2 x 2 x 0.49	50.8 x .50.8 x 12.5	UNR-3.3/20-D5	UNR, 30-66W
	25	**82.5**	12	10.2-13.8	91.5	•	•	•	•					0.9 x 2.23 x 0.39	22.9 x 56.6 x 9.9	HEN-3.3/25-D12	HEN Series
	28	**92.4**	12	10.2-13.8	93	•	•	•	•					0.9 x 2.23 x 0.46	22.9 x 56.6 x 11.7	LEN-3.3/28-D12	LEN Series
	45	**148.5**	12	10.2-13.8	93	•	•	•		•				1.35 x 2.22 x 0.44	34.3 x 56.4 x 11.2	LQN-3.3/45-D12	LQN Series
	10	**38**	5	4.5-5.5	95		•	•					•	0.34 x 2 x 0.5	8.6 x 50.8 x 12.7	LSN-3.8/10-D5	LSN-10A, D5
5V	**0.5**	**2.5**	12	7.5-36	86		•	•					•	0.4 x 0.41 x 0.75	10.2 x 10.4 x 19.1	7805SR	78xxSR Series
	2	**10**	15	4.75-28	95		•	•				•	•	0.22 x 0.83 x 0.85 (S)	5.6 x 21 x 21.5 (S)	NGA10S15050	NGA
	5	**25**	3.3	3-3.6	80		•	•					•	2.52 x 0.36 x 0.57	64 x 9 x 14.5	SBST-0320500-7C	SBST
			12	10.8-13.6	91		•							1 x 2 x 0.48	25.4 x 50.8 x 12.2	UNR-5/5-D12	UNR, 25-50W
	10	**50**	12	8-14	95		•	•					•	2 x 0.33 x 0.5	50.8 x 8.3 x 12.7	NEF0100500B0	NEF010
						•		•						1.3 x 0.53 x 0.33	33 x 13.5 x 9.3	NEF0100500S0	
				10.8-13.2	96	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-5/10-D12	LSM-10A, D12
							•	•					•	0.34 x 2 x 0.55	8.6 x 50.8 x 14	LSN-5/10-D12	LSN-10A, D12
	16	**80**	12	10-14	94.5	•		•						0.53 x 1.3 x 0.34	13.5 x 33 x 8.6	LSM-5/16-D12	LSM-16A D12
					96		•	•					•	0.36 x 2 x 0.5	9.1 x 50.8 x 12.7	LSN-5/16-D12	LSN-16A, D12
	25	**125**	12	10.2-13.8	92.5	•	•	•	•					0.9 x 2.23 x 0.39	22.9 x 56.6 x 9.9	HEN-5/25-D12	HEN Series
					95	•	•	•	•					0.9 x 2.23 x 0.46	22.9 x 56.6 x 11.7	LEN-5/25-D12	LEN Series
	45	**225**	12	10.2-13.8	95	•	•	•		•				1.35 x 2.22 x 0.44	34.3 x 56.4 x 11.2	LQN-5/45-D12	LQN Series
12V	**0.4**	**4.8**	24	15-36	95		•	•					•	0.4 x 0.41 x 0.75	10.2 x 10.4 x 19.1	7812SR	78xxSR Series

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150 Amp VRM's

VRM Series

- Meets VRM 10.1 and 10.2 requirements
- 150A peak (VRM 10.2); 120A peak (VRM 10.1)
- 1U form factor (1.25" total mating height)
- Compact, enhanced thermal design
- DAC programmable output voltage

Datasheet: VR102B150CU

V_{OUT}	Vdc	0.8375	1.6					
I_{OUT}	A	150A (peak)	150A (peak)					

DDR DRAM Power

VCN75 Series

- Wide-range programmable output
- Supports DDR1 and DDR2 memory
- 1U form factor
- High efficiency
- 1.7-2.4V_{OUT} and 2.5-5V_{OUT} models

Datasheet: VCN75

V_{OUT}	Vdc	1.8	2	2.5	3.3	5				
I_{OUT}	A	75	75	55	55	55				

POL Non-Isolated, Memory Support

Output Voltage	Rated Output Current	Total Output Power	Input Voltage		Memory Spec.	Efficiency	Package Details										Model Number	Datasheet at www.cd4power.com
			Nom.	Range			Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H)			
Vdc	A	W	Vdc	Vdc		%									Inches	mm		
1.2-1.8V	40	100	12	10.8-12.6	DDR2	90		•	•						3.8 x 1.25 x 0.8	96.5 x 31.8 x 20.3	VCN40-POVV-6	VCN40
			12	10.8-12.6	DDR2	90		•	•						3.8 x 1.25 x 0.8	96.5 x 31.8 x 20.3	VCN40-POVH-6	VCN40
1.7-2.4V	75	250	12	10.8-13.2	DDR1/ DDR2	85		•	•						3 x 1.05 x 1.1	76.2 x 26.7 x 27.9	VCN75-018V	VCN75
2.5-5V	25	100	12	10.8-12.6	DDR1	88		•	•					•	2.4 x 1.25 x 0.55	61 x 31.8 x 14	VCN25-025V	VCN25
			12	10.8-12.6	DDR1	88		•	•					•	2.4 x 1.25 x 0.55	61 x 31.8 x 14	VCN25-025H	VCN25
	55	250	12	10.8-13.2	DDR1/ DDR2	85		•	•						3 x 1.05 x 1.1	76.2 x 26.7 x 27.9	VCN55-025V	VCN55
2.5V	60	150	12	11-12.6	DDR1	90		•	•						3.8 x 1.25 x 0.83	96.5 x 31.8 x 21.1	VCN60-025	VCN60
2.5/1.8V & 1.25/0.9V	35/08	100	12	10.8-12.6	DDR1/ DDR2	83/85		•	•						3.8 x 1.18 x 0.64	96.5 x 30 x 16.2	DDR3508DVB	DDR3508

64-Bit Processor Support

Output Voltage	Rated Output Current	Total Output Power	Input Voltage		Efficiency	Package Details										Model Number	Datasheet at www.cd4power.com
			Nom.	Range		Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H)			
Vdc	A	W	Vdc	Vdc	%									Inches	mm		
0.95-1.7V	100	130	12	11-12.6	82			•						4.92 x 2.79 x 0.87	125 x 70.9 x 22.1	IPF100-013-12	IPF100-013-12
	100	130	12	11-12.6	82			•						3.9 x 2.75 x 0.78	99.1 x 69.9 x 19.8	IPS100-013-12-P	IPS100-013-12
	100	130	12	11-12.6	82			•						3.9 x 2.75 x 0.78	99.1 x 69.9 x 19.8	IPS100-013-12-R	IPS100-013-12

32-Bit Processor Support

Output Voltage	Rated Output Current	Total Output Power	Input Voltage		VRM Spec.	Efficiency	Package Details										Model Number	Datasheet at www.cd4power.com
			Nom.	Range			Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H)			
Vdc	A	W	Vdc	Vdc		%									Inches	mm		
0.8375-1.6V	150	240	12	11.04-12.6	10.1/ 10.2	86			•						3.8 x 1 x 1.18	96.5 x 25.4 x29.9	VR102B150CU	VRM10.0
	100	160	12	11.04-12.6	10.0	83			•						3.8 x 0.96 x 2.3	96.5 x 24.4 x 58.4	VR100B100CS	VRM10.0
1.1-1.85V	80	148	12	11.04-12.6	9.1	84			•						3.8 x 0.58 x 1.8	96.5 x 14.7 x 45.7	VR091B080CL	VR091B080CL
			12	11-12.6	9.1	84		•	•						3.8 x 0.8 x 1.25	96.5 x 20.3 x 31.8	VR091B080TU	VRM9.1SS
1.075-1.85V	80	148	12	11.04-12.6	9.1	84			•						3.8 x 0.57 x 2.3	96.5 x 14.5 x 58.4	VR091B080CS	VR091B080CS
	68	126	12	11.04-12.6	9.0	84			•						3.8 x 0.57 x 2.3	96.5 x 14.5 x 58.4	VR090B068CS	VR090B068CS
1.05-1.825V	28	51	5 or 12	4.5-5.5 or 10.8-13.2	8.5	80			•						2.75 x 0.85 x 1.5	69.9 x 21.6 x 38.1	VR085U028CS	VR085U028CS
	28	51	5 or 12	4.75-5.25 or 11.4-12.6	8.5	80		•	•						2.4 x 0.60 x 1.25	61 x 15.2 x 31.8	VR085U025TU	VR085U025TU

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Dual/Bipolar Isolated DC/DC Converters

For analog/linear and other applications requiring bipolar/symmetric rail voltages, C&D Technologies' isolated duals generate ±3.3V, ±5V, ±12V or ±15V outputs from a single input voltage. Not surprisingly, the C&D offering is the industry's broadest.

We offer bipolar duals with output power ranges from 0.75 to 20 Watts, input voltage ranges from 3 to 75 Volts, and package styles from sub-miniature SIP's, DIP's and SMD's to traditional 2" x 2" (51 x 51mm) through-hole devices. Isolation voltages run as high 8,000Vdc. When relevant, all products offer UL/EN safety certifications, CE marks, and EMI/EMC testing.

If your available voltage is anywhere between 3.3 and 75 Volts and your need is ±3.3V, ±5V, ±12V or ±15V at moderate power levels . . . in a small area . . . at an affordable cost, we've got your solution.

Output Voltages	Rated Output Currents	Total Output Power	Input Voltage		Isolation Voltage	Efficiency	Package Details										Model Number	Datasheet at www.cd4power.com
			Nom.	Range			Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H) (S = SIP package option) Inches	mm		
Vdc	A	W	Vdc	Vdc	kVdc	%												
±3.3	±0.163	1	3.3	2.97-3.63	3	74		•					•	•	0.23 x 0.65 x 0.3 (S)	6 x 16.6 x 7.6 (S)	NKA0303	NKA Series
					1	75	•						•		0.44 x 0.6 x 0.23	11.2 x 15.2 x 6.6	NTA0303M	NTA Series
			5	4.5-5.5	3	77		•					•	•	0.23 x 0.65 x 0.3 (S)	6 x 16.6 x 7.6 (S)	NKA0503	NKA Series
					1	77	•						•		0.44 x 0.6 x 0.23	11.2 x 15.2 x 6.6	NTA0503M	NTA Series
±5V	±0.075	0.75	5	4.5-5.5	0.75	68	•	•					•	•	0.24 x 0.77 x 0.4 (S)	6.1 x 19.6 x10.2 (S)	HPR103	HPR1XX Series
			12	10.8-13.2	0.75	71	•	•					•	•	0.24 x 0.77 x 0.4 (S)	6.1 x 19.6 x10.2 (S)	HPR109	
			15	13.5-16.5	0.75	69	•	•					•	•	0.24 x 0.77 x 0.4 (S)	6.1 x 19.6 x10.2 (S)	HPR115	
			24	21.6-26.4	0.75	69	•	•					•	•	0.24 x 0.77 x 0.4 (S)	6.1 x 19.6 x10.2 (S)	HPR121	
	±0.1	1	3.3	2.97-3.63	3	79		•					•	•	0.23 x 0.65 x 0.3 (S)	6 x 16.6 x 7.6 (S)	NKA0305	NKA Series
					1	78	•						•		0.44 x 0.6 x 0.23	11.2 x 15.2 x 6.6	NTA0305M	NTA Series
			5	4.5-5.5	3.5	68	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HB01U05D05	HB01U Series
					3	70		•					•	•	0.23 x 0.65 x 0.3 (S)	6 x 16.6 x 7.6 (S)	NKA0505	NKA Series
						80		•					•	•	0.23 x 0.65 x 0.3 (S)	6 x 16.6 x 7.6 (S)	NKA0505xE	
					1	69		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMA0505	NMA Series
					5.2	65		•						•	0.39 x 0.77 x 0.49	9.8 x 19.5 x 12.5	NMJ0505S	NMJ Series
					3	71.5		•					•	•	0.24 x 0.77 x0.39 (S)	6 x 19.5 x 10 (S)	NMV0505	NMV Series
					1	69	•						•		0.44 x 0.6 x 0.23	11.2 x 15.2 x 6.6	NTA0505M	NTA Series
						80	•						•		0.44 x 0.6 x 0.23	11.2 x 15.2 x 6.6	NTA0505ME	
					3	71	•						•		0.44 x 0.6 x 0.26	11.2 x 15.2 x 6.6	NTV0505M	NTV Series
			12	10.8-13.2	3.5	68	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HB01U12D05	HB01U Series
					3	74		•					•	•	0.23 x 0.65 x 0.3 (S)	6 x 16.6 x 7.6 (S)	NKA1205	NKA Series
					1	69		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMA1205	NMA Series
					5.2	65		•						•	0.39 x 0.77 x 0.49	9.8 x 19.5 x 12.5	NMJ1205S	NMJ Series
					3	71		•					•	•	0.24 x 0.77 x0.39 (S)	6 x 19.5 x 10 (S)	NMV1205	NMV Series
					1	69	•						•		0.44 x 0.6 x 0.23	11.2 x 15.2 x 6.6	NTA1205M	NTA Series
					3	73	•						•		0.44 x 0.6 x 0.26	11.2 x 15.2 x 6.6	NTV1205M	NTV Series
			15	13.5-16.5	3.5	68	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HB01U15D05	HB01U Series
			24	20-30	3.5	68	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HB01U24D05	HB01U Series
				21.6-26.4	1	70		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMA2405	NMA2 Series
					3	80		•					•	•	0.24 x 0.77 x0.39 (S)	6 x 19.5 x 10 (S)	NMV2405	NMV Series
			48	43.2-52.8	1	70		•					•	•	0.30 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMA4805	NMA2 Series
					3	70		•					•	•	0.30 x 0.77 x0.39 (S)	7.5 x 19.5 x 10 (S)	NMV4805	NMV Series
	±0.15	1.5	5	4.5-5.5	8	75		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	PWR1303A	PWR13XX Series
			12	10.8-13.2	8	75		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	PWR1309A	
			15	13.5-16.5	8	75		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	PWR1315A	
	±0.2	2	5	4.5-5.5	1	80		•					•	•	0.3 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMH0505	NMH Series
					6	74		•					•		0.58 x 1.28 x 0.37	14.7 x 32.6 x 9.4	NMS0505	NMS Series
					1	80	•						•		0.71 x 0.7 x 0.24	18 x 17.8 x 6	NTH0505M	NTH Series
			5	4.75-5.25	0.5	74	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02U05D05	HL02U Series
			12	10.8-13.2	1	80		•					•	•	0.3 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMH1205	NMH Series
					6	78		•					•		0.58 x 1.28 x 0.37	14.7 x 32.6 x 9.4	NMS1205	NMS Series
					1	80	•						•		0.71 x 0.7 x 0.24	18 x 17.8 x 6	NTH1205M	NTH Series
				11.4-12.6	0.5	72	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02U12D05	HL02U Series
			15	14.25-15.75	0.5	70	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02U15D05	HL02U Series
			24	9-36	1.5	75		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	WFC02R24D05	WFC02 Series
				21.6-26.4	1	81		•					•	•	0.3 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMH2405	NMH Series
				22.8-25.2	0.5	72	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02U24D05	HL02U Series
			48	18-72	1.5	74		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	WFC02R48D05	WFC02 Series
				43.2-52.8	1	82		•					•	•	0.3 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMH4805	NMH Series
	±0.25	2.5	12	9-18	1	78		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	BST-5/250-D12	BST, 3W
			12	9-18	0.5	78		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	BWP-5/250-D12	BWP, 3W
			48	18-72	1	76		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	BST-5/250-D48	BST, 3W
			48	18-72	0.5	76		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	BWP-5/250-D48	BWP, 3W

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1 Watt, High Isolation

NMJ Series

- 5.2kVdc isolation
- UL 60950 recognized
- Power sharing
- SIP package style
- 5V & 12V inputs
- UL 94V-0 package material

Datasheet: C&D NMJ Series

V_{OUT}	Vdc	5	9	12	15					
I_{OUT}	mA	±100	±55	±42	±33					

2 Watt SMD's

NTH Series

- Lead frame technology
- CECC00802 reflow (+280°C)
- 1kVdc isolation
- UL 94V-0 package material
- Internal SMD construction
- Custom solutions available

Datasheet: C&D NTH Series

V_{OUT}	Vdc	5	9	12	15					
I_{OUT}	mA	±200	±111	±83	±67					

Output Voltages	Rated Output Currents	Total Output Power	Input Voltage		Isolation Voltage	Efficiency	Package Details									Model Number	Datasheet at www.cd4power.com
			Nom.	Range			Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H) (S = SIP package option) Inches	mm	
Vdc	A	W	Vdc	Vdc	kVdc	%											
±5V	±0.4	4	5	4.5-5.5	8	85		•							1 x 2 x 0.4	25.4 x 50.8 x 10.2	HB04U05D05Q	HB04U Series
			12	10.8-13.2	8	88		•							1 x 2 x 0.4	25.4 x 50.8 x 10.2	HB04U12D05Q	
			15	13.5-16.5	8	88		•							1 x 2 x 0.4	25.4 x 50.8 x 10.2	HB04U15D05Q	
	±0.5	5	5	4.75-5.25	0.5	80		•						•	0.34 x 2.21 x 0.4	8.6 x 56.1 x10.2	HPR703	HPR7XX Series
			12	9-18	1.5	75		•					•		0.79 x 1.26 x 0.39	20 x 32 x 10	WP06R12D05	WP06R Series
			24	18-36	1	78		•							1 x 1 x 0.45	25.4 x 25.4 x 11.4	BWR-5/500-D24	BWR, 5W
					1.5	79		•					•		0.79 x 1.26 x 0.39	20 x 32 x 10	WP06R24D05	WP06R Series
			48	34-75	1.5	78		•					•		0.79 x 1.26 x 0.39	20 x 32 x 10	WP06R48D05	WP06R Series
				36-72	1	78		•							1 x 1 x 0.45	25.4 x 25.4 x 11.4	BWR-5/500-D48	BWR, 5W
	±0.7	7	5	4.7-7.25	1.5	79		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	BWR-5/700-D5A	A-Series, BWR 7-10W
			48	18-75	1.5	81		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	BWR-5/700-D48A	
	±0.9	9	12	9-18	1.5	82		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	BWR-5/900-D12A	A-Series, BWR 7-10W
	±1.5	15	5	4.7-7.5	1.5	80		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	BWR-5/1500-D5A	A-Series, BWR 15-20W
			12	10-18	1.5	81		•							1 x 2 x 0.47	25.4 x 50.8 x 11.9	BWR-5/1500-D12A	
			24	18-36	1.5	83		•							1 x 2 x 0.47	25.4 x 50.8 x 11.9	BWR-5/1500-D24A	
			48	36-75	1.5	83		•							1 x 2 x 0.47	25.4 x 50.8 x 11.9	BWR-5/1500-D48A	
	±1.7	17	24	9-36	1.5	83		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	BWR-5/1700-D12A	A-Series, BWR 15-20W
			48	18-75	1.5	83		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	BWR-5/1700-D48A	
	±2	20	12	9-18	1.5	84		•							1.59 x 1.99 x 0.43	40.4 x 50.6 x 10.8	WPN20R12D05	WPN20 Series
			24	18-36	1.5	85		•							1.59 x 1.99 x 0.43	40.4 x 50.6 x 10.8	WPN20R24D05	
			48	33-75	1.5	85		•							1.59 x 1.99 x 0.43	40.4 x 50.6 x 10.8	WPN20R48D05	
±9V	±0.055	1	3.3	2.97-3.63	1	75	•						•		0.44 x 0.6 x 0.23	11.2 x 15.2 x 6.6	NTA0309M	NTA Series
					3	75		•					•	•	0.23 x 0.65 x 0.3 (S)	6 x 16.6 x 7.6 (S)	NKA0309	NKA Series
			5	4.5-5.5	3	76		•					•	•	0.23 x 0.65 x 0.3 (S)	6 x 16.6 x 7.6 (S)	NKA0509	NKA Series
					1	75		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMA0509	NMA Series
					5.2	70		•						•	0.39 x 0.77 x 0.49	9.8 x 19.5 x 12.5	NMJ0509S	NMJ Series
					3	76		•					•	•	0.24 x 0.77 x0.39 (S)	6 x 19.5 x 10 (S)	NMV0509	NMV Series
					1	75	•						•		0.44 x 0.6 x 0.23	11.2 x 15.2 x 6.6	NTA0509M	NTA Series
					3	77	•						•		0.44 x 0.6 x 0.26	11.2 x 15.2 x 6.6	NTV0509M	NTV Series
			12	10.8-13.2	3	79		•					•	•	0.23 x 0.65 x 0.3 (S)	6 x 16.6 x 7.6 (S)	NKA1209	NKA Series
					1	74		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMA1209	NMA Series
					5.2	70		•						•	0.39 x 0.77 x 0.49	9.8 x 19.5 x 12.5	NMJ1209S	NMJ Series
					3	74		•					•	•	0.24 x 0.77 x0.39 (S)	6 x 19.5 x 10 (S)	NMV1209	NMV Series
					1	74	•						•		0.44 x 0.6 x 0.23	11.2 x 15.2 x 6.6	NTA1209M	NTA Series
					3	79	•						•		0.44 x 0.6 x 0.26	11.2 x 15.2 x 6.6	NTV1209M	NTV Series
			24	21.6-26.4	1	80		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMA2409	NMA2 Series
					3	70		•					•	•	0.24 x 0.77 x0.39 (S)	6 x 19.5 x 10 (S)	NMV2409	NMV Series
			48	43.2-52.8	1	80		•					•	•	0.30 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMA4809	NMA2 Series
					3	70		•					•	•	0.30 x 0.77 x0.39 (S)	7.5 x 19.5 x 10 (S)	NMV4809	NMV Series
	±0.111	2	5	4.5-5.5	1	81		•					•	•	0.3 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMH0509	NMH Series
					6	76		•					•		0.58 x 1.28 x 0.37	14.7 x 32.6 x 9.4	NMS0509	NMS Series
					1	81	•						•		0.71 x 0.7 x 0.24	18 x 17.8 x 6	NTH0509M	NTH Series
			12	10.8-13.2	1	83		•					•	•	0.3 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMH1209	NMH Series
					6	81		•					•		0.58 x 1.28 x 0.37	14.7 x 32.6 x 9.4	NMS1209	NMS Series
			12	10.8-13.2	1	83	•						•		0.71 x 0.7 x 0.24	18 x 17.8 x 6	NTH1209M	NTH Series
			24	21.6-26.4	1	85		•					•	•	0.3 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMH2409	NMH Series
			48	43.2-52.8	1	82		•					•	•	0.3 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMH4809	NMH Series
±12V	±0.03	0.75	5	4.5-5.5	0.75	68	•	•					•	•	0.24 x 0.77 x 0.4 (S)	6.1 x 19.6 x10.2 (S)	HPR104	HPR1XX Series
			12	10.8-13.2	0.75	74	•	•					•	•	0.24 x 0.77 x 0.4 (S)	6.1 x 19.6 x10.2 (S)	HPR110	
			15	13.5-16.5	0.75	76	•	•					•	•	0.24 x 0.77 x 0.4 (S)	6.1 x 19.6 x10.2 (S)	HPR116	
			24	21.6-26.4	0.75	67	•	•					•	•	0.24 x 0.77 x 0.4 (S)	6.1 x 19.6 x10.2 (S)	HPR122	
	±0.042	1	3.3	2.97-3.63	3	78		•					•	•	0.23 x 0.65 x 0.3 (S)	6 x 16.6 x 7.6 (S)	NKA0312	NKA Series

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3 Watt DIP's

BST Series

- Standard "DIP" package/pinout
- Fully line/load regulated
- Fully isolated (1000Vdc)
- 4.5-9V, 9-18V and 18-72V inputs
- ±5/12/15V outputs; Efficiencies to 75%
- Operation to +75°C without derating

Datasheet: DATEL BST, 3W

V_{OUT}	Vdc	±5	±12	±15						
I_{OUT}	mA	±250	±125	±100						

3 Watt Wide Input

NDT Series

- 2:1 wide input range
- Industry standard footprint
- 1kVdc isolation
- Short circuit-protection
- Low profile 24-pin case
- Load and line regulation <1% on both outputs

Datasheet: C&D NDT Series

V_{OUT}	Vdc	12	15							
I_{OUT}	mA	±125	±100							

Output Voltages	Rated Output Currents	Total Output Power	Input Voltage		Isolation Voltage	Efficiency	Package Details									Model Number	Datasheet at www.cd4power.com
			Nom.	Range			Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H) (S = SIP package option) Inches	mm	
Vdc	A	W	Vdc	Vdc	kVdc	%											
±12V	±0.042	1	3.3	2.97-3.63	1	77	•						•		0.44 x 0.6 x 0.23	11.2 x 15.2 x 6.6	NTA0312M	NTA Series
			5	4.5-5.5	3.5	70	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HB01U05D12	HB01U Series
					3	78		•					•	•	0.23 x 0.65 x 0.3 (S)	6 x 16.6 x 7.6 (S)	NKA0512	NKA Series
					1	77		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMA0512	NMA Series
					5.2	70		•						•	0.39 x 0.77 x 0.49	9.8 x 19.5 x 12.5	NMJ0512S	NMJ Series
					3	78		•					•	•	0.24 x 0.77 x0.39 (S)	6 x 19.5 x 10 (S)	NMV0512	NMV Series
					1	77	•						•		0.44 x 0.6 x 0.23	11.2 x 15.2 x 6.6	NTA0512M	NTA Series
					3	79	•						•		0.44 x 0.6 x 0.26	11.2 x 15.2 x 6.6	NTV0512M	NTV Series
			12	10.8-13.2	3.5	70	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HB01U12D12	HB01U Series
					3	81		•					•	•	0.23 x 0.65 x 0.3 (S)	6 x 16.6 x 7.6 (S)	NKA1212	NKA Series
					1	75		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMA1212	NMA Series
					5.2	70		•						•	0.39 x 0.77 x 0.49	9.8 x 19.5 x 12.5	NMJ1212S	NMJ Series
					3	75		•					•	•	0.24 x 0.77 x0.39 (S)	6 x 19.5 x 10 (S)	NMV1212	NMV Series
					1	75	•						•		0.44 x 0.6 x 0.23	11.2 x 15.2 x 6.6	NTA1212M	NTA Series
					3	80	•						•		0.44 x 0.6 x 0.26	11.2 x 15.2 x 6.6	NTV1212M	NTV Series
			15	13.5-16.5	3.5	70	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HB01U15D12	HB01U Series
			24	20-30	3.5	70	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HB01U24D12	HB01U Series
			24	21.6-26.4	1	80		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMA2412	NMA2 Series
					3	70		•					•	•	0.24 x 0.77 x0.39 (S)	6 x 19.5 x 10 (S)	NMV2412	NMV Series
			48	43.2-52.8	1	80		•					•	•	0.30 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMA4812	NMA2 Series
					3	70		•					•	•	0.30 x 0.77 x0.39 (S)	7.5 x 19.5 x 10 (S)	NMV4812	NMV Series
	±0.063	1.5	5	4.5-5.5	8	75		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	PWR1304A	PWR13XX Series
			12	10.8-13.2	8	75		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	PWR1310A	
			15	13.5-16.5	8	75		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	PWR1316A	
	±0.08	2	24	9-36	1.5	76		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	WFC02R24D12	WFC02 Series
			48	18-72	1.5	76		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	WFC02R48D12	
	±0.083	2	5	4.5-5.5	1	82		•					•	•	0.3 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMH0512	NMH
					6	77		•					•		0.58 x 1.28 x 0.37	14.7 x 32.6 x 9.4	NMS0512	NMS Series
					1	82	•						•		0.71 x 0.7 x 0.24	18 x 17.8 x 6	NTH0512M	NTH Series
			5	4.75-5.25	0.5	62	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02R05D12	HL02R Series
					0.5	82	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02U05D12	HL02U Series
			12	10.8-13.2	1	84		•					•	•	0.3 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMH1212	NMH Series
					6	82		•					•		0.58 x 1.28 x 0.37	14.7 x 32.6 x 9.4	NMS1212	NMS Series
					1	84	•						•		0.71 x 0.7 x 0.24	18 x 17.8 x 6	NTH1212M	NTH Series
			12	11.4-12.6	0.5	62	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02R12D12	HL02R Series
					0.5	79	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02U12D12	HL02U Series
			15	14.25-15.75	0.5	61	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02R15D12	HL02R Series
					0.5	78	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02U15D12	HL02U Series
			24	21.6-26.4	1	86		•					•	•	0.3 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMH2412	NMH Series
				22.8-25.2	0.5	62	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02R24D12	HL02R Series
					0.5	78	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02U24D12	HL02U Series
			48	43.2-52.8	1	85		•					•	•	0.3 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMH4812	NMH Series
	±0.105	2.5	5	4.5-9	1	73		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	BST-12/105-D5	BST, 3W
					0.5	73		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	BWP-12/105-D5	BWP, 3W
	±0.125	3	12	9-18	1	76		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	BST-12/125-D12	BST, 3W
					0.5	76		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	BWP-12/125-D12	BWP, 3W
			24	18-36	1	79		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDH2412	NDH Series
						79		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDTD2412	NDT Series
			48	18-72	1	77		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	BST-12/125-D48	BST, 3W
					0.5	77		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	BWP-12/125-D48	BWP, 3W
				36-72	1	80		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDH4812	NDH Series
				36-72	1	81		•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDTD4812	NDT Series
	±0.167	4	5	4.5-5.5	8	85		•							1 x 2 x 0.4	25.4 x 50.8 x 10.2	HB04U05D12Q	HB04U Series
			12	10.8-13.2	8	88		•							1 x 2 x 0.4	25.4 x 50.8 x 10.2	HB04U12D12Q	

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5 Watts, 1" x 1"

BWR 5W Series

- Full 5 Watts with no external components
- Standard 1" x 2" (25 x 50mm) pinout
- Wide input ranges: 18-36V or 36-72V
- Guaranteed efficiencies to 83%
- Shielded (5 sides) metal cases
- Operation to +60°C without derating

Datasheet: DATEL BWR, 5W

V_{OUT}	Vdc	±5	±12	±15						
I_{OUT}	A	±0.5	±0.21	±0.165						

1 Watt DIP & SMD

HB01U Series

- High isolation - 3.5kVdc
- Barrier 100% production tested
- Low barrier capacitance – 10pF
- Low leakage current – 2µA max.
- 24-pin DIP & SMD
- Internal filtering

Datasheet: C&D HB01U Series

V_{OUT}	Vdc	5	12	15	±5	±12	±15			
I_{OUT}	mA	200	83	67	±100	±42	±34			

Output Voltages	Rated Output Currents	Total Output Power	Input Voltage		Isolation Voltage	Efficiency	Package Details									Model Number	Datasheet at www.cd4power.com
			Nom.	Range			Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H) (S = SIP package option) Inches	mm	
Vdc	A	W	Vdc	Vdc	kVdc	%											
	±0.167	4	15	13.5-16.5	8	88		•							1 x 2 x 0.4	25.4 x 50.8 x 10.2	HB04U15D12Q	HB04U Series
	±0.208	5	5	4.75-5.25	0.5	84		•						•	0.34 x 2.21 x 0.4	8.6 x 56.1 x10.2	HPR704	HPR7XX Series
±12V	±0.208	5	12	9-18	1.5	77		•					•		0.79 x 1.26 x 0.39	20 x 32 x 10	WP06R12D12	WP06R Series
				11.4-12.6	0.5	85		•						•	0.34 x 2.21 x 0.4	8.6 x 56.1 x10.2	HPR710	HPR7XX Series
	±0.21	5	24	18-36	1	82		•							1 x 1 x 0.45	25.4 x 25.4 x 11.4	BWR-12/210-D24	BWR, 5W
			48	36-72	1	82		•							1 x 1 x 0.45	25.4 x 25.4 x 11.4	BWR-12/210-D48	
	±0.25	6	24	18-36	1.5	80		•					•		0.79 x 1.26 x 0.39	20 x 32 x 10	WP06R24D12	WP06R Series
			48	34-75	1.5	81		•					•		0.79 x 1.26 x 0.39	20 x 32 x 10	WP06R48D12	
	±0.335	8	5	4.7-7.25	1.5	78		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	BWR-12/335-D5A	A-Series, BWR 7-10W
	±0.415	10	12	9-18	1.5	84		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	BWR-12/415-D12A	A-Series, BWR 7-10W
			48	18-75	1.5	84		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	BWR-12/415-D48A	
	±0.625	15	5	4.7-7.5	1.5	81		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	BWR-12/625-D5A	A-Series, BWR 15-20W
	±0.725	17.4	12	10-18	1.5	83.5		•							1 x 2 x 0.47	25.4 x 50.8 x 11.9	BWR-12/725-D12A	A-Series, BWR 15-17W
			24	18-36	1.5	85		•							1 x 2 x 0.47	25.4 x 50.8 x 11.9	BWR-12/725-D24A	
			48	36-75	1.5	86		•							1 x 2 x 0.47	25.4 x 50.8 x 11.9	BWR-12/725-D48A	
	±0.83	20	12	9-18	1.5	86		•							1.59 x 1.99 x 0.43	40.4 x 50.6 x 10.8	WPN20R12D12	WPN20 Series
			24	9-36	1.5	83		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	BWR-12/830-D12A	A-Series, BWR 15-20W
				18-36	1.5	87		•							1.59 x 1.99 x 0.43	40.4 x 50.6 x 10.8	WPN20R24D12	WPN20 Series
			48	18-75	1.5	83		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	BWR-12/830-D48A	A-Series, BWR 15-20W
				33-75	1.5	87		•							1.59 x 1.99 x 0.43	40.4 x 50.6 x 10.8	WPN20R48D12	WPN20 Series
±15V	±0.025	0.75	5	4.5-5.5	0.75	75	•	•					•	•	0.24 x 0.77 x 0.4 (S)	6.1 x 19.6 x10.2 (S)	HPR105	HPR1XX Series
			12	10.8-13.2	0.75	77	•	•					•	•	0.24 x 0.77 x 0.4 (S)	6.1 x 19.6 x10.2 (S)	HPR111	
			15	13.5-16.5	0.75	79	•	•					•	•	0.24 x 0.77 x 0.4 (S)	6.1 x 19.6 x10.2 (S)	HPR117	
			24	21.6-26.4	0.75	69	•	•					•	•	0.24 x 0.77 x 0.4 (S)	6.1 x 19.6 x10.2 (S)	HPR123	
	±0.033	1	3.3	2.97-3.63	3	79		•					•	•	0.23 x 0.65 x 0.3 (S)	6 x 16.6 x 7.6 (S)	NKA0315	NKA Series
					1	77	•								0.44 x 0.6 x 0.23	11.2 x 15.2 x 6.6	NTA0315M	NTA Series
			5	4.5-5.5	3.5	73	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HB01U05D15	HB01U Series
					3	79		•					•	•	0.23 x 0.65 x 0.3 (S)	6 x 16.6 x 7.6 (S)	NKA0515	NKA Series
					1	78		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMA0515	NMA Series
					5.2	70		•						•	0.39 x 0.77 x 0.49	9.8 x 19.5 x 12.5	NMJ0515S	NMJ Series
					3	79		•					•	•	0.24 x 0.77 x0.39 (S)	6 x 19.5 x 10 (S)	NMV0515	NMV Series
					1	78	•								0.44 x 0.6 x 0.23	11.2 x 15.2 x 6.6	NTA0515M	NTA Series
					3	80	•								0.44 x 0.6 x 0.26	11.2 x 15.2 x 6.6	NTV0515M	NTV Series
			12	10.8-13.2	3.5	73	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HB01U12D15	HB01U Series
					3	82		•					•	•	0.23 x 0.65 x 0.3 (S)	6 x 16.6 x 7.6 (S)	NKA1215	NKA Series
					1	76		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMA1215	NMA Series
					5.2	70		•						•	0.39 x 0.77 x 0.49	9.8 x 19.5 x 12.5	NMJ1215S	NMJ Series
					3	76		•					•	•	0.24 x 0.77 x0.39 (S)	6 x 19.5 x 10 (S)	NMV1215	NMV Series
					1	76	•								0.44 x 0.6 x 0.23	11.2 x 15.2 x 6.6	NTA1215M	NTA Series
					3	82	•								0.44 x 0.6 x 0.26	11.2 x 15.2 x 6.6	NTV1215M	NTV Series
			15	13.5-16.5	3.5	73	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HB01U15D15	HB01U Series
			24	20-30	3.5	73	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HB01U24D15	HB01U Series
				21.6-26.4	1	80		•					•	•	0.30 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMA2415	NMA2 Series
					3	70		•					•	•	0.30 x 0.77 x0.39 (S)	7.5 x 19.5 x 10 (S)	NMV2415	NMV Series
			48	43.2-52.8	1	80		•					•	•	0.30 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMA4815	NMA2 Series
					3	70		•					•	•	0.30 x 0.77 x0.39 (S)	7.5 x 19.5 x 10 (S)	NMV4815	NMV Series
	±0.05	1.5	5	4.5-5.5	8	75		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	PWR1305A	PWR13XX Series
			12	10.8-13.2	8	75		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	PWR1311A	
			15	13.5-16.5	8	75		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	PWR1317A	
	±0.067	2	5	4.5-5.5	1	84		•					•	•	0.3 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMH0515	NMH Series
					6	78		•					•		0.58 x 1.28 x 0.37	14.7 x 32.6 x 9.4	NMS0515	NMS Series
					1	84	•								0.71 x 0.7 x 0.24	18 x 17.8 x 6	NTH0515M	NTH Series
				4.75-5.25	0.5	62	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02R05D15	HL02R Series

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15-17 Watts, 1" x 2"

BWR 15-17W Series

- Standard, 25mm x 50mm package/pinouts
- ±5/12/15V outputs @ up to 17 Watts
- Standard, 2:1, 12V, 24V and 48V inputs
- Full synchronous-rectifier topologies
- Efficiencies to 87%; 75mVp-p noise
- Operation to +60/70°C without derating

Datasheet: DATEL A-Series, BWR, 15-17W

V_{OUT}	Vdc	±5	±12	±15						
I_{OUT}	A	±1.5	±0.73	±0.58						

2 Watts, High Isolation

NMS Series

- 6kVdc isolation
- UL1950 recognized
- Low-profile package
- 5V & 12V inputs
- UL 94V-0 package material
- Custom solutions available

Datasheet: C&D NMS Series

V_{OUT}	Vdc	±5	±9	±12	±15					
I_{OUT}	mA	±200	±111	±83	±67					

Output Voltages	Rated Output Currents	Total Output Power	Input Voltage		Isolation Voltage	Efficiency	Package Details										Model Number	Datasheet at www.cd4power.com
			Nom.	Range			Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H) (S = SIP package option) Inches	mm		
Vdc	A	W	Vdc	Vdc	kVdc	%												
±15V	±0.067	2	5	4.75-5.25	0.5	82	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02U05D15	HL02U Series
			12	10.8-13.2	1	84		•					•	•	0.3 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMH1215	NMH Series
			12	10.8-13.2	6	82		•					•		0.58 x 1.28 x 0.37	14.7 x 32.6 x 9.4	NMS1215	NMS Series
					1	84	•								0.71 x 0.7 x 0.24	18 x 17.8 x 6	NTH1215M	NTH Series
				11.4-12.6	0.5	62	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02R12D15	HL02R Series
						79	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02U12D15	HL02U Series
			15	14.25-15.75	0.5	61	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02R15D15	HL02R Series
						78	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02U15D15	HL02U Series
			24	9-36	1.5	76		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	WFC02R24D15	WFC02 Series
				21.6-26.4	1	86		•					•	•	0.3 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMH2415	NMH Series
				22.8-25.2	0.5	62	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02R24D15	HL02R Series
						78	•	•					•		0.53 x 1.29 x 0.38	13.3 x 32.6 x 9.5	HL02U24D15	HL02U Series
			48	18-72	1.5	77		•					•		0.81 x 1.27 x 0.4	20.5 x 32.3 x 10.2	WFC02R48D15	WFC02 Series
				43.2-52.8	1	85		•					•	•	0.3 x 0.77 x 0.39 (S)	7.5 x 19.5 x 10 (S)	NMH4815	NMH Series
	±0.085	2.6	5	4.5-9	1	74		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	BST-15/85-D5	BST, 3W
					0.5	74		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	BWP-15/85-D5	BWP, 3W
	±0.1	3	12	9-18	1	76		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	BST-15/100-D12	BST, 3W
					0.5	76		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	BWP-15/100-D12	BWP, 3W
			24	18-36	1	80		•					•		0.58 x 1.27 x 0.28	9.25 x 25.95 x 12.45	NDH2415	NDH Series
								•					•		0.58 x 1.27 x 0.28	14.7 x 32.3 x 7	NDTD2415	NDT Series
			48	18-72	1	77		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	BST-15/100-D48	BST, 3W
					0.5	77		•					•		0.8 x 1.25 x 0.45	20.3 x 31.8 x 11.4	BWP-15/100-D48	BWP, 3W
				36-72	1	81		•					•		0.58 x 1.27 x 0.28	9.25 x 25.95 x 12.45	NDH4815	NDH Series
								•					•		0.36 x 1.02 x x0.49	9.25 x 25.95 x x	NDTD4815	NDT Series
	±0.134	4	5	4.5-5.5	8	85		•							1 x 2 x 0.4	25.4 x 50.8 x 10.2	HB04U05D15Q	HB04U Series
			12	10.8-13.2	8	88		•							1 x 2 x 0.4	25.4 x 50.8 x 10.2	HB04U12D15Q	
			15	13.5-16.5	8	88		•							1 x 2 x 0.4	25.4 x 50.8 x 10.2	HB04U15D15Q	
	±0.165	5	24	18-36	1	83		•							1 x 1 x 0.45	25.4 x 25.4 x 11.4	BWR-15/165-D24	BWR, 5W
			48	36-72	1	82		•							1 x 1 x 0.45	25.4 x 25.4 x 11.4	BWR-15/165-D48	
	±0.167	5	5	4.75-5.25	0.5	84		•						•	0.34 x 2.21 x 0.4	8.6 x 56.1 x10.2	HPR705	HPR7XX Series
			12	9-18	1.5	77		•					•		0.79 x 1.26 x 0.39	20 x 32 x 10	WP06R12D15	WP06R Series
				11.4-12.6	0.5	85		•						•	0.34 x 2.21 x 0.4	8.6 x 56.1 x10.2	HPR711	HPR7XX Series
			15	14.2-15.8	0.5	85		•						•	0.34 x 2.21 x 0.4	8.6 x 56.1 x10.2	HPR717	
	±0.2	6	24	18-36	1.5	80		•					•		0.79 x 1.26 x 0.39	20 x 32 x 10	WP06R24D15	WP06R Series
			48	34-75	1.5	81		•					•		0.79 x 1.26 x 0.39	20 x 32 x 10	WP06R48D15	
	±0.275	8.3	5	4.7-7.25	1.5	79		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	BWR-15/275-D5A	A-Series, BWR 7-10W
	±0.33	10	12	9-18	1.5	84		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	BWR-15/330-D12A	A-Series, BWR 7-10W
			48	18-75	1.5	84		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	BWR-15/330-D48A	
	±0.5	15	5	4.7-7.5	1.5	82		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	BWR-15/500-D5A	A-Series, BWR 15-20W
	±0.575	17.3	12	10-18	1.5	84		•							1 x 2 x 0.47	25.4 x 50.8 x 11.9	BWR-15/575-D12A	A-Series, BWR 15-17W
			24	18-36	1.5	86		•							1 x 2 x 0.47	25.4 x 50.8 x 11.9	BWR-15/575-D24A	
			48	36-75	1.5	87		•							1 x 2 x 0.47	25.4 x 50.8 x 11.9	BWR-15/575-D48A	
	±0.67	20	12	9-18	1.5	86		•							1.59 x 1.99 x 0.43	40.4 x 50.6 x 10.8	WPN20R12D15	WPN20 Series
			24	9-36	1.5	83		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	BWR-15/670-D12A	A-Series, BWR 15-20W
				18-36	1.5	87		•							1.59 x 1.99 x 0.43	40.4 x 50.6 x 10.8	WPN20R24D15	WPN20 Series
			48	18-75	1.5	84		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	BWR-15/670-D48A	A-Series, BWR 15-20W
				33-75	1.5	87		•							1.59 x 1.99 x 0.43	40.4 x 50.6 x 10.8	WPN20R48D15	WPN20 Series

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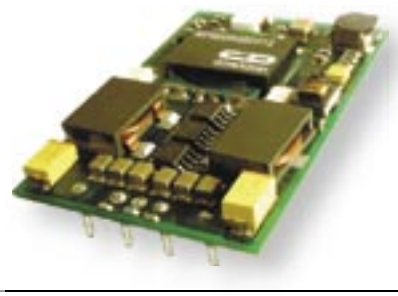
Dual/Asymmetric Isolated DC/DC Converters



When your application requires multiple positive voltages and you can not easily derive one from the other using a non-isolated POL, consider an asymmetric dual.

Asymmetric duals are isolated, 2-output DC/DC converters that typically provide two low voltages such as 3.3V and 1.8V. As such, they are ideal for driving the core and I/O logic of complex PLD's or ASIC's. On DSL line cards, they can power both the DSP and the line drivers. In evolving process-control systems, they can power older 5V logic and newer 3.3V micros.

Asymmetric duals provide the real-estate and cost savings of a single package with one set of input circuitry (stand-up caps, filters, etc.). On the output side, many duals feature 2-loop designs that effectively deliver two independently regulated converters in a single package . . . with a standard pinout and internationally recognized safety approvals. Why evaluate and qualify two devices when you can do one . . . for less money?

Output Voltages	Rated Output Currents	Total Output Power	Input Voltage		Isolation Voltage	Efficiency	Package Details										Model Number	Datasheet at www.cd4power.com
			Nom.	Range			Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H) (S = SIP package option) Inches	mm		
Vdc	A	W	Vdc	Vdc	kVdc	%												
1.5/1V	12 / 12	60	48	36-75	1.5	82		•			•				1.45 x 2.3 x 0.41	36.8 x 58.4 x 10.4	WPA60R48D1510	WPA60
1.8/1.2V	12 / 12	60	48	36-75	1.5	82		•			•				1.45 x 2.3 x 0.41	36.8 x 58.4 x 10.4	WPA60R48D1812	WPA60
2.2/1.5V	12 / 12	60	48	36-75	1.5	86		•			•				1.45 x 2.3 x 0.41	36.8 x 58.4 x 10.4	WPA60R48D2215	WPA60
2.5/1.8V	12 / 12	60	48	36-75	1.5	86		•			•				1.45 x 2.3 x 0.41	36.8 x 58.4 x 10.4	WPA60R48D2518	WPA60
3.3/1.2V	12 / 12	60	48	36-75	1.5	89		•			•				1.45 x 2.3 x 0.41	36.8 x 58.4 x 10.4	WPA60R48D3312	WPA60
3.3/1.8V	12 / 12	60	48	36-75	1.5	89		•			•				1.45 x 2.3 x 0.41	36.8 x 58.4 x 10.4	WPA60R48D3318	WPA60
3.3/2.5V	12 / 12	60	48	36-75	1.5	89		•			•				1.45 x 2.3 x 0.41	36.8 x 58.4 x 10.4	WPA60R48D3325	WPA60
	15 / 15	50	24	18-36	1.5	84		•				•			2.3 x 2.4 x 0.5	58.4 x 61 x 12.7	BCP-3.3/15-2.5/15-D24	BCP-3.3/2.5, 50W
			48	36-75	1.5	84		•				•			2.3 x 2.4 x 0.5	58.4 x 61 x 12.7	BCP-3.3/15-2.5/15-D48	BCP-3.3/2.5, 50W
5/1.5V	12 / 12	60	48	36-75	1.5	89		•			•				1.45 x 2.3 x 0.41	36.8 x 58.4 x 10.4	WPA60R48D0515	WPA60
5 / 3.3V	0.1 / 0.152	1	5	4.5-5.5	1	70		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMD050503	NMD
	2.65 / 3	15	12	10-18	1.5	86	•								1 x 2 x 0.52	25.4 x 50.8 x 13.2	DSM-5/2.65-3.3/3-D12	DSM/DWR, 15W
								•							1 x 2 x 0.45	25.4 x 50.8 x 11.4	DWR-5/2.65-3.3/3-D12	DSM/DWR, 15W
			24	18-36	1.5	85	•								1 x 2 x 0.52	25.4 x 50.8 x 13.2	DSM-5/2.65-3.3/3-D24	DSM/DWR, 15W
								•							1 x 2 x 0.45	25.4 x 50.8 x 11.4	DWR-5/2.65-3.3/3-D24	DSM/DWR, 15W
			48	36-75	1.5	85	•								1 x 2 x 0.52	25.4 x 50.8 x 13.2	DSM-5/2.65-3.3/3-D48	DSM/DWR, 15W
								•							1 x 2 x 0.45	25.4 x 50.8 x 11.4	DWR-5/2.65-3.3/3-D48	DSM/DWR, 15W
	6 / 7	33	12	10-18	1.5	86		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	BWR-5/6-3.3/7-D12	BWR-5/3.3, 33W
			24	18-36	1.5	88		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	BWR-5/6-3.3/7-D24	BWR-5/3.3, 33W
			48	36-75	1.5	88		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	BWR-5/6-3.3/7-D48	BWR-5/3.3, 33W
	12 / 12	60	48	36-75	1.5	90		•			•				1.45 x 2.3 x 0.41	36.8 x 58.4 x 10.4	WPA60R48D0533	WPA60
	12 / 15	60	24	18-36	1.5	90		•			•				1.5 x 2.3 x 0.5	38.1 x 58.4 x 12.7	VSX60LD35	VSX60
			48	36-75	1.5	90		•			•				1.5 x 2.3 x 0.5	38.1 x 58.4 x 12.7	VSX60MD35	VSX60
	15 / 15	75	24	18-36	1.5	87.2		•				•			2.3 x 2.4 x 0.53	58.4 x 61 x 13.3	BCP-5/15-3.3/15-D24	BCP-5/3.3, 75W
			48	36-75	1.5	88		•				•			2.3 x 2.4 x 0.53	58.4 x 61 x 13.3	BCP-5/15-3.3/15-D48	BCP-5/3.3, 75W
	15 / 23	75	48	36-75	1.5	90					•				1.5 x 2.3 x 0.5	38.1 x 58.4 x 12.7	VSX75MD35	VSX75
5 / 5	0.1 / 0.1	1	5	4.5-5.5	1	70		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMD050505	NMD
			12	10.8-13.2	1	70		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMD120505	NMD
5 / 9	0.1 / 0.056	1	5	4.5-5.5	1	80		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMD050509	NMD
			12	10.8-13.2	1	80		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMD120509	NMD
5 / 12	0.1 / 0.042	1	5	4.5-5.5	1	80		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMD050512	NMD
			12	10.8-13.2	1	80		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMD120512	NMD
5 / 15	0.1 / 0.034	1	5	4.5-5.5	1	80		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMD050515	NMD
			12	10.8-13.2	1	80		•					•	•	0.24 x 0.77 x 0.39 (S)	6 x 19.5 x 10 (S)	NMD120515	NMD

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Triple Output Isolated DC/DC Converters

If your challenge is to power an entire mixed-signal, analog/digital, system partition from a single dc source voltage, C&D Technologies' high-quality, triple-output DC/DC converters can provide your total solution.

Operating from inputs as low as 4.7V or as high as 75V, each of these full-featured power converters offers a 3.3V or 5V primary output (with current as high as 30 Amps) and either ±12V or ±15V auxiliary outputs (with currents as high as ±4.2 Amps).

Our versatile offering includes: the industry's smallest triples (1 x 2 inches, 25 x 50mm) at 8-22W power levels; slightly larger, wide-input (9-36V and 18-75V) devices at 20-30 Watt levels; and traditional 1/2-bricks at 100 Watts. One unique product offers 24, 48 and 72V outputs.

Before you buy two or three DC/DC converters to accomplish your task, see if a single 3-output device from C&D does the job.

Output Voltages	Rated Output Currents	Total Output Power	Input Voltage		Isolation Voltage	Efficiency	Package Details										Model Number	Datasheet at www.cd4power.com
			Nom.	Range			Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H) (S = SIP package option) Inches	mm		
Vdc	A	W	Vdc	Vdc	kVdc	%												
3.3/±12V	4/±0.3	20.4	12	10-18	1.5	85		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	TWR-3.3/4-12/300-D12	TWR, 22W
			24	18-36	1.5	87		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	TWR-3.3/4-12/300-D24	
			48	36-75	1.5	87		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	TWR-3.3/4-12/300-D48	
	4.25/±0.625	29	24	18-36	1.5	86		•							2 x 2 x 0.5	50.8 x 50.8 x 12.7	TWR-3.3/4250-12/625-D24	TWR, 30W
			48	36-75	1.5	87		•							2 x 2 x 0.5	50.8 x 50.8 x 12.7	TWR-3.3/4250-12/625-D48	
	18/±2.5	60	24	18-40	1.5	86		•				•			2.3 x 2.4 x 0.5	58.4 x 61 x 12.7	VKP60LT312	VKP60
			48	33-75	1.5	86		•				•			2.3 x 2.4 x 0.5	58.4 x 61 x 12.7	VKP60MT312	
	30/±4.2	100	48	33-75	1.5	86		•				•			2.3 x 2.4 x 0.5	58.4 x 61 x 12.7	VKP100MT312	VKP100
3.3/±15V	4/±-0.25	20.7	12	10-18	1.5	84		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	TWR-3.3/4-15/250-D12	TWR, 22W
			24	18-36	1.5	87		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	TWR-3.3/4-15/250-D24	
			48	36-75	1.5	87		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	TWR-3.3/4-15/250-D48	
	4.25/±0.5	29	24	18-36	1.5	86		•							2 x 2 x 0.5	50.8 x 50.8 x 12.7	TWR-3.3/4250-15/500-D24	TWR, 30W
			48	36-75	1.5	87		•							2 x 2 x 0.5	50.8 x 50.8 x 12.7	TWR-3.3/4250-15/500-D48	
	18/±2	60	24	18-40	1.5	86		•				•			2.3 x 2.4 x 0.5	58.4 x 61 x 12.7	VKP60LT315	VKP60
			48	33-75	1.5	86		•				•			2.3 x 2.4 x 0.5	58.4 x 61 x 12.7	VKP60MT315	
	30/±3.4	100	48	33-75	1.5	86		•				•			2.3 x 2.4 x 0.5	58.4 x 61 x 12.7	VKP100MT315	VKP100
5/±12V	1/±0.125	8	5	4.7-7	1.5	76		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	TWR-5/1000-12/125-D5A	A-Series, TWR 8-11W
	1/±0.21	10	12	9-18	1.5	82		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	TWR-5/1000-12/210-D12A	A-Series, TWR 8-11W
			24	18-36	1.5	84		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	TWR-5/1000-12/210-D24A	
			48	36-72	1.5	84		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	TWR-5/1000-12/210-D48A	
	1.2/±0.25	12	48	18-72	1.5	81		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	TWR-5/1200-12/250-D48A	A-Series, TWR 12-15W
	1.5/±0.25	13.5	48	18-72	1.5	79		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	TWR-5/1500-12/250-D48A	
	3/±0.3	22.2	12	10-18	1.5	85		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	TWR-5/3-12/300-D12	TWR, 22W
			24	18-36	1.5	86		•							1 x 2 x 0.49	25.4 x 50.8 x 12.4	TWR-5/3-12/300-D24	
			48	36-75	1.5	87		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	TWR-5/3-12/300-D48	
	3/±0.5	20	12	9-36	1.5	82		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	TWR-5/3000-12/500-D12A	A-Series, TWR 20W
			48	18-75	1.5	83		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	TWR-5/3000-12/500-D48A	
	12/±2.5	60	24	18-40	1.5	87		•				•			2.3 x 2.4 x 0.5	58.4 x 61 x 12.7	VKP60LT512	VKP60
			48	33-75	1.5	87		•				•			2.3 x 2.4 x 0.5	58.4 x 61 x 12.7	VKP60MT512	
	20/±4.2	100	48	33-75	1.5	87		•				•			2.3 x 2.4 x 0.5	58.4 x 61 x 12.7	VKP100MT512	VKP100
5/±15V	0.8/±0.15	8.5	5	4.7-7	1.5	76		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	TWR-5/800-15/150-D5A	A-Series, TWR 8-11W
	1/±0.2	11	12	9-18	1.5	82		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	TWR-5/1000-15/200-D12A	A-Series, TWR 8-11W
			24	18-36	1.5	84		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	TWR-5/1000-15/200-D24A	
			48	36-72	1.5	84		•							1 x 2 x 0.38	25.4 x 50.8 x 9.5	TWR-5/1000-15/200-D48A	
	1/±0.25	12.5	48	18-72	1.5	80		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	TWR-5/1000-15/250-D48A	A-Series, TWR 12-15W
	1.5/±0.25	15	48	18-72	1.5	81		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	TWR-5/1500-15/250-D48A	
	3/±0.25	22.5	12	10-18	1.5	83		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	TWR-5/3-15/250-D12	TWR, 22W
			24	18-36	1.5	86		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	TWR-5/3-15/250-D24	
			48	36-75	1.5	87		•							1 x 2 x 0.49	25.4 x 50.8 x 12.5	TWR-5/3-15/250-D48	
	3/±0.5	20	12	9-36	1.5	82		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	TWR-5/3000-15/500-D12A	A-Series, TWR 20W
			48	18-75	1.5	82		•							2 x 2 x 0.45	50.8 x 50.8 x 11.4	TWR-5/3000-15/500-D48A	
	12/±2	60	24	18-40	1.5	87		•				•			2.3 x 2.4 x 0.5	58.4 x 61 x 12.7	VKP60LT515	VKP60
			48	33-75	1.5	87		•				•			2.3 x 2.4 x 0.5	58.4 x 61 x 12.7	VKP60MT515	
	20/±2	100	48	33-75	1.5	87		•				•			2.3 x 2.4 x 0.5	58.4 x 61 x 12.7	VKP100MT515	VKP100
24/48/72	42/21/14mA	3	5	4.5-5.5	1	85		•						•	0.3 x 0.86 x 0.44	7.5 x 21.8 x 11.1	NMT0572S	NMT
			12	10.8-13.2	1	85		•						•	0.3 x 0.86 x 0.44	7.5 x 21.8 x 11.1	NMT1272S	

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Quad Output DC/DC Converters

Datasheet: C&D HPR2XX

Designed for multiple channel applications that require small size and need a complete one-package solution, the HPR2XX Series offers four isolated channels of output power in a footprint less than the size of many singular devices.

- Four channels of isolated power
- High output power density: >9. 4 Watts/Inch^3
- Extended temperature range: -25°C To +85°C
- High efficiency: To 84%
- Low cost
- Single in-line package (SIP)
- Internal input and output filtering

Output Voltages	Rated Output Currents	Total Output Power	Input Voltage		Isolation Voltage	Efficiency	Package Details										Model Number	Datasheet at www.cd4power.com
			Nom.	Range			Surface Mount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H) (S = SIP package option) Inches	mm		
Vdc	A	W	Vdc	Vdc	kVdc	%												
4 x ±5	±75 / ±75 / ±75 / ±75	3	24	21.6-26.4	0.75	74		•						•	0.34 x 2.21 x 0.4	8.6 x 56.1 x 10.2	HPR221	HPR2XX
4 x ±5.2	±73 / ±73 / ±73 / ±73	3	5	4.5-5.5	0.75	74		•						•	0.34 x 2.21 x 0.4	8.6 x 56.01 x 10.2	HPR203	
4 x ±12	±30 / ±30 /±30 / ±30	3	5	4.5-5.5	0.75	80		•						•	0.34 x 2.21 x 0.4	8.6 x 56.1 x 10.2	HPR204	
			12	10.8-13.2	0.75	82		•						•	0.34 x 2.21 x 0.4	8.6 x 56.1 x 10.2	HPR210	
			15	13.5-16.5	0.75	83		•						•	0.34 x 2.21 x 0.4	8.6 x 56.1 x 10.2	HPR216	
4 x ±15	±25 / ±25 / ±25 / ±25	3	5	4.5-5.5	0.75	80		•						•	0.34 x 2.21 x 0.4	8.6 x 56.1 x 10.2	HPR205	
			12	10.8-13.2	0.75	84		•						•	0.34 x 2.21 x 0.4	8.6 x 56.1 x 10.2	HPR211	
			15	13.5-16.5	0.75	84		•						•	0.34 x 2.21 x 0.4	8.6 x 56.1 x 10.2	HPR217	
			24	21.6-26.4	0.75	81		•						•	0.34 x 2.21 x 0.4	8.6 x 56.1 x 10.2	HPR223	

Terminators for DDR Memory

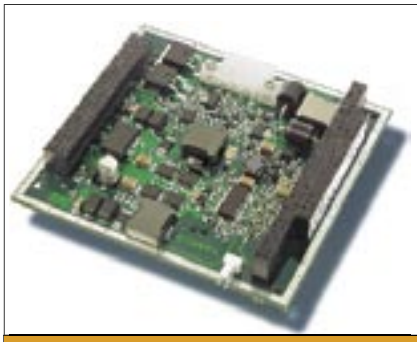
Designed for efficient termination of SSTL-2 (Series Stub Terminated Logic) signals in DDR (Dual Data Rate) DRAM memories, C&D's DDR Series, ±9A, non-isolated DC/DC converters are compatible to industry-standard JEDEC JESD specifications for DDR memories.

- Provides DDR's DRAM's VTT termination voltage

- Sinks or sources ±9A at 1.25V
- Industry-standard, 1.6 x 0.5 x 0.2 inch SIP
- Operates over –40 to +65°C with 200 lfm airflow
- 3-5.5V input with 85% efficiency
- Standard vertical mount, optional horizontal mount
- Compatible to JEDEC JESD 79 and 8-9 DDR

Output Voltage	Rated Output Current	Total Output Power	Input Voltage		Isolation Voltage	Efficiency	Package Details										Model Number	Datasheet at www.cd4power.com
			Nom.	Range			SurfaceMount	Through Hole	Open Frame	1/8 Brick	1/4 Brick	1/2 Brick	DIP	SIP	Dimensions (W x L x H) Inches	mm		
Vdc	A	W	Vdc	Vdc	kVdc	%												
1.25	±9	11.25	3.3	3.5-5	0	83		•	•					•	0.35 x 1.6 x 0.5	8.9 x 40.6 x 12.7	DDR-9-W3	DDR Series
			3.3	3.5-5	0	83		•	•					•	0.5 x 1.6 x 0.35	12.7 x 40.6 x 8.9	DDR-9-W3H	

Mobile Access Power Card (MAPC-104)



The DATEL MAPC-104 (Mobile Access Power Card, PC/104-Plus format) is an application-specific, non-isolated, 46-Watt, triple-output DC/DC converter. It is constructed as a compact 3.775" x 3.55" x 0.6" (95.9 x 90.2 x 15.2mm) open-frame power card and fully compliant to PC/104-Plus specifications. Designed in close cooperation with The Cisco 3200 Series Development Team, the MAPC-104 provides all the voltages and currents necessary to power all standard configurations of the Cisco 3200 Series Mobile Access Router.

- PC/104-Plus compatible/stackable
- +3.3V@6A, +5.1V@6.3A, +12V@0.1A outputs
- 9 to 32V input range for 12 & 24V applications
- Automotive transient protection designed-in
- High 92.5% efficiency
- Low 25mVp-p ripple/noise
- Microcontroller-based design
- Fully I/O protected
- Powers Cisco® 3200 Mobile Access Router/ Interface Cards

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Electronic Loads - Digitally Controlled

DATEL's new small size electronic loads range from 0 to 50A and 0.5 to 200V with a total power consumption of 100 Watts with a heat sink. Package dimensions for all load models are 2" x 2" x 0.5" (51 x 51 x 12.7 mm). The load models can be controlled by an analog input or alternatively a serial input (any digital I/O board or RS-485 based options). Real-time load simulation, power resistor substitution, battery testing, dynamic power supply testing and burn-in, solar cell testing and fuel cell testing are examples of the many possible applications for these devices.

Model	Current Rating (Amps)	Voltage Rating (Volts)	Features
DTL2A	0-20	2.5-50	• 100 W max. loading
DTL2A-LC	0-20	0.6-50	• Serial input controlled
DTL3A	0-2	2.5-200	• Dynamic loading up to 20 kHz
DTL4A	0-10	2.5-150	• Parallel load capability for higher current ratings
DTL5A-LC	0-2	0.6-50	• Fault detection line

For full product data download a datasheet at www.cd4power.com

Electronic Loads - Analog Controlled

The easy-to-use DTL22A is an excellent building block for low-cost, fully flexible, power-supply (AC/DC or DC/DC) or power-component (MOSFET's, diodes, etc.) test and burn-in applications. It is accurate (±5mA offset error, ±1% overall accuracy), fast (200µsec full-scale step response), and capable of impressive resolution. If it is controlled with a 12-bit, 0-10V D/A converter, for example, one LSB (least significant bit) of the D/A corresponds to a 5mA change in the DTL22A's output/load current.

Model	Current Rating (Amps)	Voltage Rating (Volts)	Features
DTL22A	0-20	2.5-50	• 100 W max. loading
DTL22A-LC	0-20	0.6-50	• Dynamic loading up to 5 kHz
DTL23A	0-2	2.5-200	• Parallel load capability for higher current ratings
DTL24A	0-10	2.5-150	• Control voltage 0 to +10 V
DTL25A-LC	0-2	0.6-50	• Fault detection line
DTL31A-LC	0-10	0.5-30	• Moderate-current versions (DTL2XA-LC)
DTL32A-LC	0-50	0.5-30	• High-current versions (DTL3XA-LC)
DTL35A-LC	0-5	0.5-30	• Low-compliance

For full product data download a datasheet at www.datel.com

Electronic Loads - Accessories

DATEL electronic loads serve as "building blocks" for customers to integrate into their turnkey test and burn-in systems. A low-cost DTL-HS100D12 (100 Watt heat-sink with integrated 12Vdc fan), allows users to achieve full power rating from their load. Serial input users may choose a digital I/O board for control, but an optional RS-485 based interface board and associated products, are also offered with an ActiveX Control.

Model	Description	Features
DTL-IFB-485	RS-485 serial interface	Max. 256 units in 16 banks addressable
DTLx485	WinBurn ActiveX control	Available with each DTL-IFB-485 lot
DTL-HS100D12	100 Watt Heat Sink with integral 12 Vdc Fan	100 Watts power dissipation
DTL-DB10-6	Connecting cable between RS-485 port and DTL-IFB-485	Provides connection for first unit
DTL-RS232-485	Adapter card fits Comm Port on PC to provide RS485 interface	Allows quick connection to PC, versus a separate RS-485 board

For full product data download a datasheet at www.datel.com

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Isolated DC/DC Converters - Listed by Power

Power (Watts)	Product Series	Output Voltage(s)																					Output Configuration(s)			
		1.0	1.2	1.5	1.8	2.0	2.5	3.3	5.0	5.2	8	9	9.6	10.5	12	13.25	15	18	24	28.2	48	72	Single	Dual	Triple	Quad
<1W	LME Series								•			•			•		•						•			
	HPR1XX Series								•						•		•						•	•		
<2W	HB01U Series								•						•		•						•	•		
	NKA Series							•	•			•			•		•							•		
	NKE Series							•	•			•					•						•			
	NMA Series								•			•			•		•							•		
	NMD							•	•			•			•		•							•		
	NME Series								•			•			•		•		•				•			
	NMF Series								•			•			•		•						•			
	NMJ Series								•			•			•		•							•		
	NMV Series								•			•			•		•						•	•		
	NTA Series							•	•			•			•		•							•		
	NTE Series							•	•			•			•		•						•			
	NTV Series								•			•			•		•							•		
	PWR13XX Series								•						•		•						•	•		
<3W	HL02R Series								•						•		•						•	•		
	HL02U Series								•						•		•						•	•		
	NDL Series								•			•			•		•						•			
	NMH								•			•			•		•							•		
	NML Series								•			•			•		•						•			
	NMS Series								•			•			•		•							•		
	NTH Series								•			•			•		•							•		
	WFC02 Series								•						•		•						•	•		
	LP02U Series											•											•			
<4W	BST, 3W								•						•		•							•		
	BWP, 3W								•						•		•							•		
	HPR2XX								•	•					•		•									•
	NDH Series														•		•							•		
	NDTD Series														•		•							•		
	NDTS Series							•	•						•		•						•			
	NDY Series							•	•			•			•		•						•			
	NMT																		•		•	•			•	
	UST, 3W								•						•		•						•			
	UWP, 3W								•						•		•						•			
<7W	HB04U Series								•						•		•						•	•		
	BWR, 5W								•						•		•							•		
	HPR7XX Series								•						•		•						•	•		
	UWR, 5W								•						•		•						•			
	WP06R Series								•						•		•						•	•		
<15W	A-Series, BWR 7-10W								•						•		•							•		
	A-Series, UWR 6-10W								•	•					•		•						•			
	A-Series, UWR 7-15W		•	•	•	•	•	•	•						•		•						•			
	A-Series, TWR 8-11W								•						•		•								•	
	NPH10 Series							•	•						•		•						•			
<20W	NPX20 Series				•		•	•															•			
	A-Series, TWR 12-15W								•						•		•								•	
	UHE, 12-30W		•	•	•			•	•						•		•						•			
	A-Series, UWR 14-20W							•	•	•					•		•						•			
	UEP Series							•	•						•		•						•			
	A-Series, BWR 15-20W								•						•		•							•		
	DSM/DWR, 15W							•	•															•		
	NPH15 Series							•	•						•		•						•			
	A-Series, BWR 15-17W								•						•		•							•		
	WPN20 Series							•	•						•		•						•	•		
	A-Series, TWR 20W								•						•		•								•	
<30W	TWR, 22W							•	•						•		•								•	
	EHS20-012		•																				•			
	NPH25 Series							•	•						•		•						•			
	A-Series, UWR 26-40W							•	•														•			
<40W	EHS20-015			•																			•			
	EHS20-018				•																		•			
	BWR-5/3.3, 33W							•	•															•		
	TWR, 30W							•							•		•								•	
<60W	BCP-3.3/2.5, 50W						•	•																•		
	EHS10-050								•														•			
	EHS15-033							•															•			
	EHS20-025						•																•			
	VKA50 Series							•	•						•		•		•				•			
<75W	ULE, 20A		•	•	•		•	•	•						•								•			
	UCP, 60/72W																		•		•		•			
	VKA60 Series							•	•						•		•		•				•			
	VKP60							•							•		•								•	
	VSX60							•	•															•		
	WPA60	•	•	•	•		•	•	•															•		
	QHS55-012		•																				•			
<100W	BCP-5/3.3, 75W							•	•															•		
	VKA75 Series					•		•	•						•		•		•				•			
	VSX75							•	•															•		
	QHS25				•		•	•															•			
	QHS50-015			•																			•			

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Isolated DC/DC Converters - Listed by Power

Power (Watts)	Product Series	Output Voltage(s)																					Output Configuration(s)			
		1.0	1.2	1.5	1.8	2.0	2.5	3.3	5.0	5.2	8	9	9.6	10.5	12	13.25	15	18	24	28.2	48	72	Single	Dual	Triple	Quad
<100W	UQQ Series								•						•								•			
	QHS50-018				•																		•			
	HPH Series		•					•															•			
	UVQ Series						•	•	•						•			•	•		•		•			
	UCQ Series							•	•														•			
<150W	QHS40-025						•																•			
	VKA100 Series					•	•	•	•						•		•		•				•			
	SLC100 Series		•	•	•	•	•	•	•						•								•			
	VKP100							•	•						•		•								•	
	HHS45/50						•	•															•			
	QHS35-033							•															•			
	ULQ Series		•	•	•	•	•	•	•						•								•			
	EBC, 128W										•												•			
	QHS12-120														•								•			
<200W	UCH Series								•						•								•			
	VKA150 Series								•						•		•		•				•			
	HHS60/70						•	•															•			
	EBC, 180W														•								•			
	EUS15-120														•								•			
<250W	BC048A120T20													•		•							•			
	EBC, 240W														•								•			
	EUS20-120														•								•			
	EUS25-096												•										•			
	EUS30-080										•												•			
	QUS20-120														•								•			
	SBC Series														•								•			
<270W	UHP Series			•	•		•	•							•					•			•			
	QBC Series														•								•			
460W	HUS42-096												•										•			

Point-of-Load DC/DC Converters - Listed by Current

Current	Series	User Selectable Output Voltages			Fixed Output Voltages														
		0.75-3.3	0.75-5	1.2-5	0.75	0.8	0.9	1	1.1	1.2	1.25	1.3	1.5	1.8	2	2.5	3.3	5	12
0.5A	78xxSR Series																•	•	•
2A	NGA			•										•		•	•	•	
	UNR, 3.6-10W													•		•	•		
5A	NCA005	•																	
	NNL05		•																
	SBST																	•	
	UNR, 25-50W																	•	
6A	LSM2-6A, D12		•																
	LSM2-6A, W3	•																	
8A	S007			•															
10A	LQN Series						•		•		•		•	•	•		•	•	
	LSM-10A, D12	•				•		•		•			•	•	•	•	•	•	
	LSM-10A, D3					•		•		•			•	•	•	•			
	LSM-10A, D5					•		•		•			•	•	•	•	•		
	LSM2-10A, W3	•																	
	LSN-10A, D12							•		•			•	•	•	•	•	•	
	LSN-10A, D3							•		•		•	•	•	•	•			
	LSN-10A, D5							•		•			•	•	•	•	•		
	LSN2-10A, D12		•																
	LSN2-10A, W3	•																	
	NCF010							•		•			•	•	•	•	•		
	NEA010		•					•		•			•	•	•	•	•	•	
	NEF010							•		•			•	•	•	•	•	•	
	NFA010		•																
	NNL10						•	•		•			•	•	•	•	•		
15A	NCA015	•																	
	SV15			•															
	UNR, 30-66W															•	•		
16A	LSM-16A D12		•		•			•		•			•	•	•	•	•	•	
	LSM-16A W3	•			•			•		•			•	•	•	•	•		
	LSN-16A, D12		•		•			•		•			•	•	•	•	•	•	
	LSN-16A, W3	•			•			•		•			•	•	•	•	•		
	LSN2-16A, D12		•																
	LSN2-16A, W3	•																	
	S016			•															
20A	NFA020		•																
	S020			•															
	UNR, 30-66W												•	•		•	•		
25A	HEN Series					•		•		•			•	•	•	•	•	•	
	LEN Series					•		•		•			•	•	•	•	•	•	

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...Powering Innovation

Higher Quality

Our aim is to fully understand the requirements of our customers, to 'get it right first time' (every time) and to continually improve the quality of our products and customer service.

We comply with all relevant quality standards, including **ISO 9001:2000**, at all manufacturing locations but our attitude to quality goes beyond having the right certifications. Quality permeates every single aspect of our business, from our comprehensive product design, manufacture and testing through to delivery and customer support.

Our high quality manufacturing materials and processes allow us to achieve consistently high levels of performance and reliability at ever increasing power densities:

Materials

- Thick film on ceramic substrates
- Copper on ceramic substrates
- Copper on insulated metal substrates
- Leading edge components
- Gold plated leadframes
- UL94V-0 approved materials
- Multi-layer FR4 substrates

Manufacturing Processes

- Direct silicon die placement
- Chip & wire bonding
- High temperature reflow, inert nitrogen environment
- Automatic PCB vision inspection
- Automatic tape & reeling
- SMD product vision system – coplanarity verification
- 100% functional test
- Transfer molding of SMD products
- Vacuum encapsulation
- Automated handling

Agency Approvals

Many C&D products feature global safety approvals to help you document your designs for agency approval of the end product. Approvals include UL, CSA, EN & VDE. Products intended for military or harsh environment applications also meet relevant military standards.

Better Reliability

Customers expect product reliability as standard - ours perform to specification (and often beyond) - but we believe that reliability of supply, service and support is equally important.

When you design in a C&D Technologies product you can be confident that it will operate to the specification on the datasheet - often performing far better than the figures stated.

Our Design Verification Testing is vigorous and exhaustive (see page 34) allowing you to specify C&D products with absolute confidence.

And with the industry's most stringent Mean Time To Failure (MTTF) calculation criteria you can be sure that our products will continue to perform for the operating lifetime of your application.

At C&D Technologies we believe that reliability goes beyond delivering products that meet operating specifications during their lifetime. We employ a philosophy of overall supplier reliability.

This philosophy extends into many other areas of our organization including customer communications, the sales channel, and customer support – logistical, technical, and commercial.

C&D Technologies' sales team – along with our extensive network of distributors, agents, and representatives – is truly worldwide, ensuring access to our global capability in your locality, in your time zone, and in your language.

Whether you need a technical specification, engineering assistance to achieve the very best from your application, a detailed shipping schedule or just a sample, you can rely on us to give you the attention you deserve.

Technical, application and corporate information is also available 24 hours a day, 365 days a year from our websites, including all product datasheets and application notes. If you need help finding the best products for your specific requirement, you will also find search facilities which will select and present the products which most closely fit your chosen criteria.

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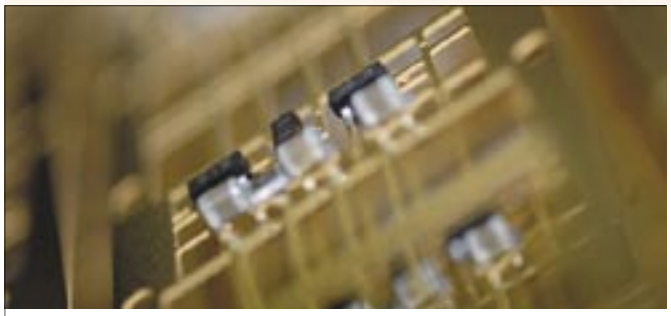
...Powering Innovation

Greater Innovation



A constant drive towards better performance, improved reliability and higher power density has resulted in 'world firsts' with the smallest DC/DC converters and Compact PCI(TM) power supplies.

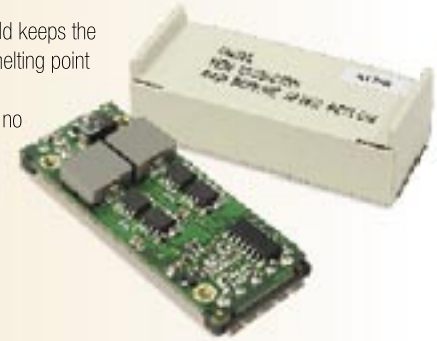
These firsts were achieved by utilizing advanced processes such as 'chip and wire' bonding, ceramic and insulated metal substrates and transfer molded leadframe packaging along with state-of-the-art component placement lines.

While we continuously evolve proven circuit topologies, implementing them using the newest qualified components, we also constantly challenge the standard way of thinking in search of better solutions to the ever-changing challenges our customers face.

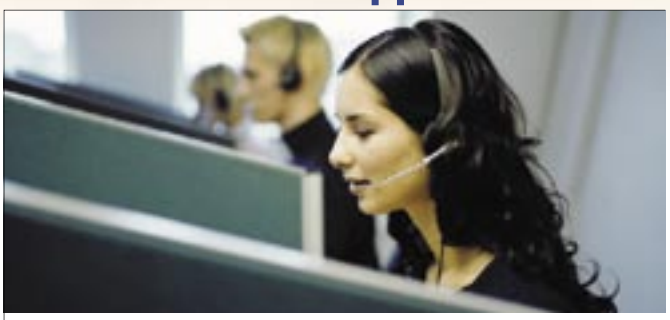
A re-think on reflow

In order for their surface mount DC/DC converters to go through a high temperature reflow process without degradation of the solder joints within the device (double-reflow), manufacturers will often require you to modify your reflow profile.

Our disposable heat shield keeps the temperature below the melting point of the solder within the DC/DC converter so there is no need for you to alter your reflow profile (even with temperatures up to 260°C).



Total Customer Support



We pride ourselves in our ability to provide technical support on a worldwide basis. From design to delivery we proactively identify and implement solutions that address your requirements.

Our commitment to customer service and satisfaction goes beyond simply producing and delivering quality products. We recognize the need to provide the highest levels of service at all times to support you in achieving your business goals - and this has allowed us to maintain our market-leading position.

Not only do we have a comprehensive product range which covers applications from Telecom to Industrial and Medical to Security, but we back this with solid engineering, quality and manufacturing resources on a global scale. We recognize that not all customers' needs are the same and sometimes a custom design is required. Our design teams in the US, Europe, and Asia offer localized design expertise, whether modifying a standard product to your requirements, or designing a custom product to suit your application.

Our global presence goes beyond the corporation to our network of manufacturer's representatives, field sales engineers, and distributors who provide logistic and technical support at a local level.

For detailed technical support, our highly qualified, multilingual personnel provide comprehensive product and application support, backed up by our online data resources.

Comprehensive testing facilities, including our own UL approved laboratory, also help us guide you with the implementation of our products in your specific application.

C&D Technologies is committed to you as a customer. We support you, through the application of our technology, in solving your design challenges thus aiding you in achieving your business goals.

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A Global Team

Today's customers expect the delivery of quality, reliability, innovation, service and support on a worldwide basis. We continually look to maintain and enhance our global presence.

The electronics industry is truly global and C&D Technologies has grown and developed understanding the needs of customers whose design and manufacturing operations can be as geographically diverse as their market places.

We have ISO 9001:2000 certified manufacturing facilities in three continents, sales locations in the USA, United Kingdom, France, Germany, Japan and China plus a network of distributors and manufacturers' representatives right across the world.

As a result we are able to satisfy the most stringent demands wherever the customer may be, whether they are an established global OEM or an entrepreneurial startup.

Meeting these needs has resulted in C&D Technologies establishing capabilities in many fields including:

- International Logistics
- Multi-Site Manufacturing
- Low Cost/High Volume Production
- Local Agency Approvals
- Regional Sales Support
- Regional Technical Support
- Regional Custom Design Teams

When Standard is Not Enough

When a standard product is not available to satisfy your requirements, we have the engineering expertise, experience, tools, processes, and manufacturing capabilities to meet your needs.

Whether your requirement is a minor modification to an existing product or a completely custom solution, we will work with you to achieve the ideal solution for your application.

We ensure rapid delivery of cost-effective, high-quality, reliable application-specific solutions through collaborative engineering. This process involves close consultation with you to assure the design and delivery of optimum solutions in terms of performance, quality, reliability, cost, and development time.

This relationship covers every technical and business aspect of custom design from start to finish and ensures that comprehensive support is provided throughout any custom product's life cycle.

At the launch of every project, a highly trained Program Manager is appointed who is responsible for the continuing coordination of all engineering and production stages. In addition to enabling C&D's product development team to work closely with your own design and manufacturing staff, the Program Manager also handles all of the commercial aspects of the project including cost management, delivery scheduling, and maintenance of ongoing after-sales support.

The combination of our experienced in-house engineering and production teams with state-of-the-art, high-quality production equipment and processes, allows us to deliver optimized solutions on time and within budget every time.

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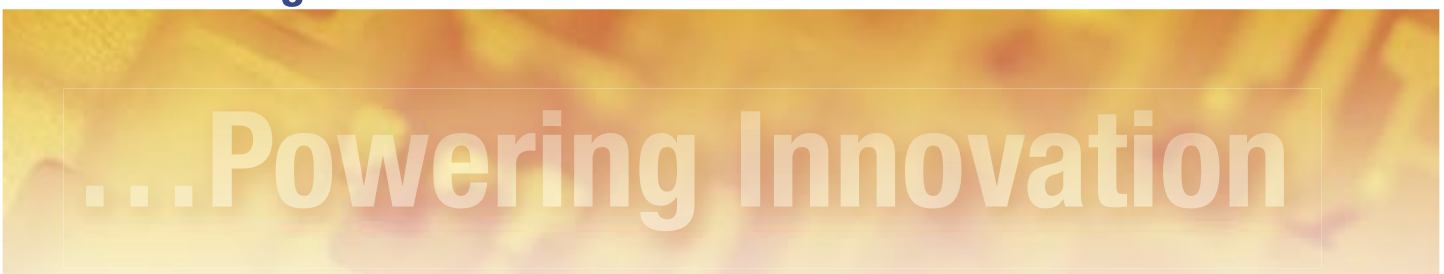
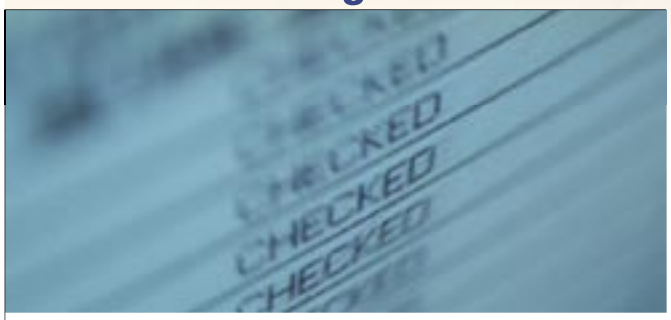


Well Proven Designs



To allow you to design C&D products into your application with absolute confidence, we operate a comprehensive program of design verification.

This Design Verification Testing (DVT) process ensures that the specifications stated on our datasheets accurately represent the performance of our products. Tests are product specific but generally include:

Test	Standard
Electrical Characteristics	C&D Technologies internal
Solderability	CEIA ANSI/J-STD-002
Lead Temperature (Solder Heat)	C&D Technologies internal
Peak Reflow Temperature	CECC 00802
Isolation	C&D Technologies internal
Lead Finish Adhesion	Mil-Std 883E/2025.4
Temperature Cycling	Mil-Std 883E/1010.7
Mechanical Shock	Mil-Std 883E/2002.3
Vibration	Mil-Std 883E/2007.2
Bump	ETS 300 019-2-4
High Temperature Storage Life	EIA JESD 22-A103-A
Humidity Bias	EIA JESD 22-A101-B
Flammability	BS EN 60695-11-7
Lead Integrity Tension & Fatigue	Mil-Std 883E/2004
Solvent Resistance	Mil-Std 883E/2015.11
Coplanarity	EIA JESD22-B108

Environmental Responsibility

C&D Technologies is committed to achieving compliance with the European RoHS and WEEE directives which aim to reduce waste and its impact on the environment.

RoHS (Restriction of Hazardous Substances) Directive
RoHS is a European Parliament Directive requiring member states to legislate that electrical/electronic equipment sold after July 1st 2006 does not contain six potentially hazardous substances including lead (Pb).

WEEE (Waste Electrical & Electronic Equipment) Directive
This is another European directive which aims to:

- reduce the amount of electrical waste that is dumped in land fill sites every year within the European community
- develop a holistic view, on a global basis, that there is a real requirement to adopt a "cradle to grave" philosophy relating to Producer Responsibility.

These directives are among many legislative activities around the world which are driving the conversion to RoHS compliant, Pb-free components.

Our Policy
At C&D Technologies we have put in place comprehensive plans to migrate to RoHS compliant technologies with minimum disruption to customers and without compromise in critical areas such as product performance, reliability and cost.

Since the announcement of the RoHS Directive we have been working with our supplier base to eliminate non-compliant materials from the components in our products. Pb-free assembly lines are in place at all our manufacturing facilities to ensure that all available products are RoHS compliant by the July 06 deadline.

We constantly strive to improve our manufacturing processes and improve our level of environmental awareness. In addition to the move to Pb-free processes, recycling of waste materials, reduction of energy used, and the design of new products to accommodate end of life recycling are key areas where we are making positive progress towards a more environmentally friendly future.

For the latest information please visit our websites.

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AC/DC Power Supplies

C&D Technologies has AC/DC power supplies to meet every possible application requirement in terms of power, performance, efficiency, protection, size, approvals compliance, and cooling requirements.

- **Military**
  Our military specialists at Celab have over 30 years' experience designing and producing power supplies for Avionic, Naval, Tracked, Land and Portable.

- **CATV / Telco**
  Ultra-reliable, ruggedized power supplies for harsh CATV and Telecomunications

- **PCI & cPCI**
  From 200-500W, many with IPMI funcionality in packages as small as 3U x 4HP
- **Configurable**
  400-1000W, up to 12 Output, general & medical configurations

- **Front End Modules for DPAs**
  AC to 48VDC ultra compact front end supplies for distributed power architectures with active power factor correction

- **Custom Power Supplies**
  Our design teams have the engineering expertise, experience, tools, processes and manufacturing capabilities to meet your needs

Magnetics

Two essential elements of the vast majority of power electronics applications are filtering and isolation. Whether you need to reduce noise or protect vital components, C&D can offer a wide range of products to suit your requirements.

- **Inductors & Transformers**
  Over 400 highly advanced and optimized inductor and transformer solutions with the emphasis on miniaturization, reliability and ease of handling. These power oriented designs are available in a variety of styles including:
  - bobbin
  - radial
  - axial
  - surface mount
  - through-hole
  - Tape and reel packaging is available for surface mount devices making them ideal for pick and place assembly lines

- **Filters**
  Differential common-mode
- **Databus Isolators**
  Dual and Quad

Digital Panel Meters

Over 25 years of designing and manufacturing digital panel meters has not dulled our spirit of innovation. Today we are focusing on specific applications of 2-wire meters, process monitors and AC or DC ammeters that are the easiest-to-use, most affordable meters available.

- **General Purpose Voltmeters**
  Versatile, 12-pin, dual-in-line package offering component like "plug-in" convenience for pc-board mounting as well as a built-in bezel for easy panel mounting.

- **2-Wire Meters**
  Power your measuring instrument with the signal you're measuring! Measure the voltage at a standard USA-style wall outlet simply by "plugging in" an ac line monitor. Monitor the 400MHz frequency of an aircraft power generator without worrying about "proper" grounding.

- **Process Monitors**
  4/20mA and 0-10V process control monitors

- **AC Ammeters**
  Directly measure AC currents from 0-2A to 0-100A
- **DC Ammeters**
  Include built-in shunts, reverse-polarity protection, and connections for all supply and load wiring

Data Acquisition

Our leadership status in high-performance data acquisition components is unchallenged. Our outstanding electrical performance, small packaging, low-power consumption and ease-of-use will genuinely impress you.

- **Electronic Imaging**
  Resolution from 8 to 18-bits and sampling rates 20MSPS, Low cost commercial and military high-reliability versions

- **A/D Converters**
- **Sampling A/D Converters**
  Ideal for high-end applications such as medical or life-science imaging, analytical instrumentation and military pulse and spread-spectrum applications

- **Digital-to-Analog Converters**
  Settling times to 20 nanoseconds, update rates to 100MHz

- **Sample/Hold Amplifiers**
  Accuracies from 0.01% to 0.0008% (12 to 16 bit equivalent resolution)

- **Single-Package Data Acquisition**
  Multi-channel with differential or single-ended options

- **Multiplexers**

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