

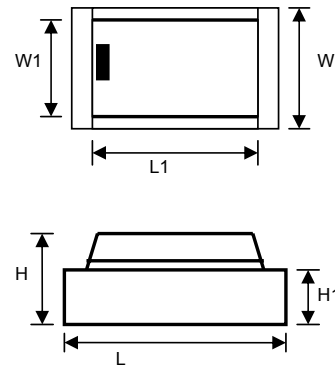
Voltage : 50V

Current: 0.15 Ampere

Part No: **HSD4151 SOD-123**

| |
|---|
| APPLICATION Ultra high speed switching |
| FEATURE Small surface mounting type (SOD-123) High speed. (TRR=4.0nSec Type) Suitable for high packing density. Maximum total power dissipation is 500mW. Peak forward current is 500mA. Withstand 275°C soldering temperature. ESD rating of class 3(>10KV)per human body model. |
| CONSTRUCTION Silicon epitaxial planar |
| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%. |

DIMENSION (mm)
HSD4151 SOD-123
W: 1.60mm
W1 1.25mm
L1 2.85mm
H 0.93mm
H1 0.55mm
L 3.60mm



CIRCUIT



MAXIMUM RATING (At Ta = 25°C unless otherwise noted)

| RATING | SYMBOL | HSD4151 | UNITS |
|---|-----------------------------------|---------|-------|
| Maximum Non-Repetitive Peak Reverse Voltage | V _{RM} | 75 | Volts |
| Maximum Repetitive Peak Reverse Voltage | V _{RRM} | 50 | Volts |
| Maximum working Peak Reverse Voltage | V _{RWM} | | |
| Maximum DC Blocking Voltage | V _{DC} | | |
| Maximum RMS Voltage | V _{RMS} | 35 | Volts |
| Maximum Average Forward Rectified Current | I _O | 0.15 | Amps |
| Peak Forward Surge Current | I _{FSM} | 2.0 | Amps |
| | | 1.0 | |
| | | 2.0 | |
| Typical Junction Capacitance between terminal (Note 1) | C _J | 2.0 | pF |
| Maximum Reverse Recovery (Note 2) | T _{RR} | 4.0 | nSec |
| Maximum Thermal Resistance | R _{θJA} | 350 | °C/W |
| Maximum operating and storage temperature range. | T _J , T _{STG} | -65+150 | °C |

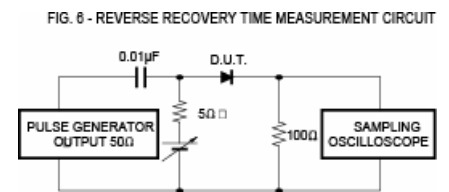
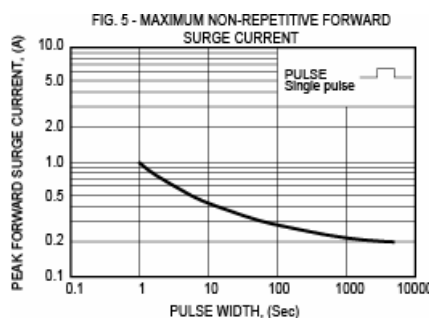
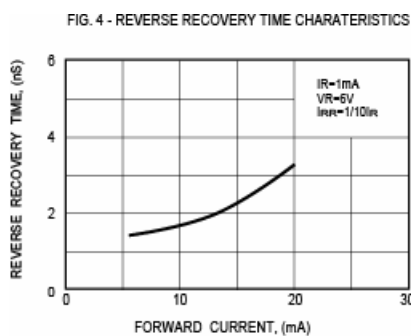
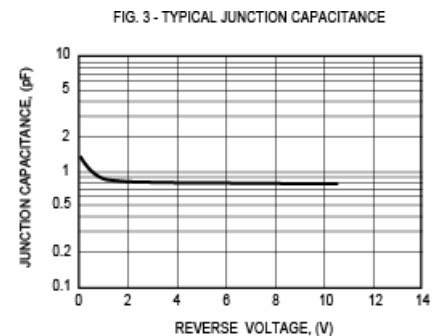
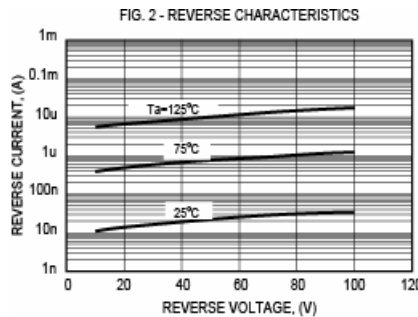
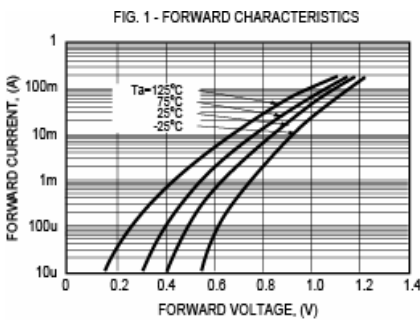
ELECTRICAL CHARACTERISTICS (At Ta = 25°C unless otherwise noted)

| CHARACTERISTICS | SYMBOL | HSD4151 | UNITS |
|---|----------------|---------|-------|
| Maximum Instantaneous Forward Voltage at = 50mA | V _F | 1.0 | Volts |
| Maximum Average Reverse Current | I _R | 50 | nAmps |
| | | 50 | uAmps |

| | |
|-----------------|-------------------|
| Package: | |
| Part No | HSD4151(SOD-123) |
| Reel: | 4K Pcs |
| G.W. | 0.16 Kg / Reel |
| Box: | 40K Pcs |
| Carton: | 240K PCS |
| C/Size: | 41x39x21cm |
| G.W.: | 10Kg / Carton |
| Brand: | SINLOON |

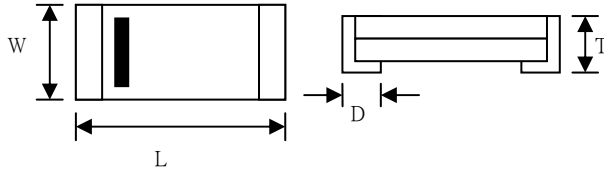
- NOTES 1 Measured at 1.0 MHz and allied reverse voltage of 0 voltage
 2 Measured at applied forward current of 10mA, reverse current of 1.0 mA, Reverse voltage of 6.0 voltage and RL = 100 ohms.
 3 ESD sensitive product handling required.

RATING CHARACTERISTICS CURVES



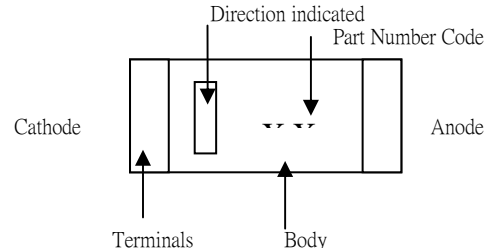
OUTLINE DIMENSION

| Item | 0603 | 0805 | 1206 | SOD-123 |
|------|-----------------------------|----------------------------|----------------------------|-----------------------------|
| L | 1.55±0.1 (0.062±0.004) | 2.00±0.20 (0.080±0.008) | 3.2±0.20 (0.127±0.008) | 3.50±0.10 (0.140±0.002) |
| W | 0.8±0.10 (0.032±0.004) | 1.25±0.20 (0.062±0.004) | 1.50±0.20 (0.059±0.008) | 1.50±0.10 (0.059±0.004) |
| T | 0.065±0.10 (0.026±0.004) | 0.85±0.10 (0.034±0.004) | 0.85±0.10 (0.034±0.004) | 0.92±0.10 (0.036±0.004) |
| D | 0.35±0.10 (0.014±0.004) | 0.45±0.20 (0.018±0.008) | 0.55±0.20 (0.022±0.008) | 0.35±0.10 (0.0137±0.004) |



DEVICE MARKING

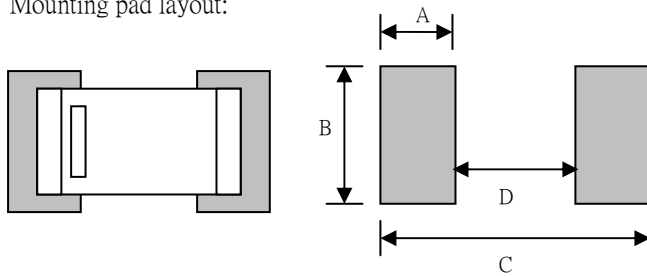
Device has been marked indelibly and legibly as follow



MOUNTING PAD

Unit : mm

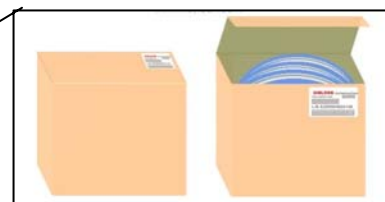
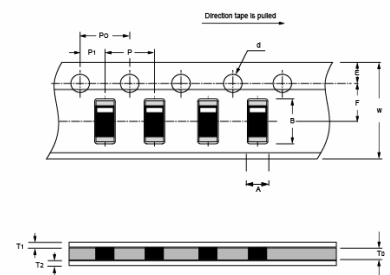
Mounting pad layout:



| Layout | A | B | C | D |
|------------|------|------|------|------|
| Size: 0805 | 1.2 | 1.2 | 3.3 | 0.9 |
| Micro Melf | 0.9 | 1.4 | 2.8 | 1.0 |
| SOD-323 | 1.35 | 0.65 | 3.75 | 1.05 |
| 1206 | 1.2 | 1.7 | 4.1 | 1.7 |
| Mini Melf | 1.35 | 1.7 | 4.8 | 2.1 |
| SOD-123 | 1.2 | 0.7 | 4.9 | 2.5 |

REEL TAPING SPECIFICATIONS

| Item | Symbol | Specifications (mm) | | | |
|----------------------------|--------|---------------------|-------------|-------------|-------------|
| | | Size: 0603 | Size: 0805 | Size: 1206 | SOD-123 |
| Carrier width | A | 1.10±0.05 | 1.65±0.10 | 2.0±0.10 | 2.0±0.10 |
| Carrier length | B | 1.90±0.05 | 2.40±0.10 | 3.6±0.10 | 3.8±0.10 |
| Sprocket hole | d | 1.50±0.15 | 1.50±0.15 | 1.50±0.05 | 1.50±0.05 |
| Sprocket hole position | E | 1.75±0.10 | 1.75±0.10 | 1.75±0.1 | 1.75±0.1 |
| Punch hole position | F | 3.50±0.05 | 3.50±0.05 | 3.5±0.05 | 3.5±0.05 |
| Punch hole pitch | P | 4.00±0.10 | 4.00±0.10 | 4.0±0.10 | 4.0±0.10 |
| Sprocket hole pitch | Po | 4.00±0.10 | 4.00±0.10 | 4.0±0.10 | 4.0±0.10 |
| Embossment centre | P1 | 2.0±0.05 | 2.0±0.05 | 2.0±0.05 | 2.0±0.05 |
| Base tape width | W | 8.0±0.20 | 8.0±0.20 | 8.0±0.20 | 8.0±0.20 |
| Top/Bottom seat tape width | W1 | 5.25±0.05 | 5.25±0.05 | 5.25±0.05 | 5.25±0.05 |
| Base tape thickness | T0 | 0.95±0.02 | 0.95±0.02 | 0.95±0.02 | 1.05±0.02 |
| Top seat tape thickness | T1 | 0.054±0.005 | 0.054±0.005 | 0.054±0.005 | 0.054±0.005 |
| Bottom seat tape thickness | T2 | 0.042±0.005 | 0.042±0.005 | 0.042±0.005 | 0.042±0.005 |



Small Signal - Chip Switching Diode

| Part No. | Peak Repetitive Reverse Voltage V _{RRM} (V) | Max. Average Rectified Current I _o (mA) | Peak Forward Surge Current I _{FSM} (A) | Forward Voltage Drop V _F (A) | Max Reverse Current I _R (uA) | Power Rating (mW) | Reverse Recovery T _{RR} (nSec) | Capacitance C _{tot} (pF) |
|--------------------|---|---|--|--|--|----------------------|--|--------------------------------------|
| 1 CD4148WTP (0603) | 75 | 150 | 0.2 | 1.0 | 5.0 | 300 | 4.0 | 4.0 |
| 2 CD4148WSP (0805) | 75 | 150 | 0.2 | 1.0 | 5.0 | 300 | 4.0 | 4.0 |
| 3 CD4148WP (1206) | 75 | 150 | 0.2 | 1.0 | 5.0 | 300 | 4.0 | 4.0 |
| 4 CD4151WP (1206) | 50 | 150 | 0.2 | 1.0 | 5.0 | 500 | 4.0 | 2.0 |
| 5 CD4448WP (1206) | 75 | 150 | 0.2 | 1.0 | 5.0 | 300 | 4.0 | 4.0 |
| 6 HSD4148 SOD-123 | 75 | 150 | 0.2 | 1.0 | 5.0 | 300 | 4.0 | 3.0 |
| 7 HSD4151 SOD-123 | 50 | 150 | 0.2 | 1.0 | 50 nAmps | 500 | 4.0 | 2.0 |
| 8 HSD4448 SOD-123 | 75 | 150 | 0.2 | 1.0 | 5.0 | 300 | 4.0 | 3.0 |
| 9 BASM16 SOD-123 | 100 | 150 | 0.2 | 1.0 | 1.0 (V _R =75V) | 350 | 4.0 | 1.5 |
| 10 MAVM70 SOD-123 | 75 | 150 | 0.2 | 1.0 | 2.5 (V _R =75V) | 300 | 4.0 | 1.5 |