Technical Data
Data Sheet N1412, Rev. D

RoHS HF

# SD560B STANDARD RECTIFIER



SMB

## Features

- Glass Passivated Die Construction
- Ideally Suited for Automatic Assembly
- Low Forward Voltage Drop
- Low Power Loss
- Built Strain Relief
- Plastic Case Material has UL Flammability Classification Rating 94V-O
- This is a Halogen Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

## Circuit Diagram




## Mechanical Data

- Case: SMB molded plastic body
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.09 grams

## Maximum Ratings and Electrical Characteristics @$T_A$=25°C unless otherwise specified

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

| Characteristic | Symbol | SD560B | Units |
|---|---|---|---|
| Maximum Peak Repetitive Reverse Voltage<br>Maximum DC Blocking Voltage | $V_{RRM}$<br>$V_{DC}$ | 600 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 420 | V |
| Maximum Average Forward Rectified Current<br>0.375"(9.5mm) Lead Length @$T_A$ = 75°C | $I_{(AV)}$ | 5.0 | A |
| Non-Repetitive Peak Forward Surge Current<br>8.3ms Single half sine-wave superimposed on<br>rated load (JEDEC Method) | $I_{FSM}$ | 200 | A |
| $I^2t$ Rating for fusing (t < 8.3ms) | $I^2t$ | 166 | $A^2S$ |
| Maximum Instantaneous Forward Voltage @$I_F$ = 5.0A | $V_F$ | 1.2 | V |
| Maximum DC Reverse Current @$T_A$ = 25°C<br>At Rated DC Blocking Voltage @$T_A$ = 100°C | $I_R$ | 9.0<br>170 | uA |
| Typical Junction Capacitance (Note 1) | Cj | 50 | pF |
| Typical Thermal Resistance (Note 2) | $R_{\theta JA}$ | 20 | °C/W |
| Operating Storage Temperature Range | $T_{STG}$ | -65 to +175 | °C |
| Operating Junction Temperature | $T_J$ | -65 to +175 | °C |

Note: 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. Thermal resistance from junction to ambient at 0.375"(9.5mm)lead length, P.C.B. mounted.

## Ratings and Characteristics Curves

FIG. 1- FORWARD CURRENT DERATING CURVE

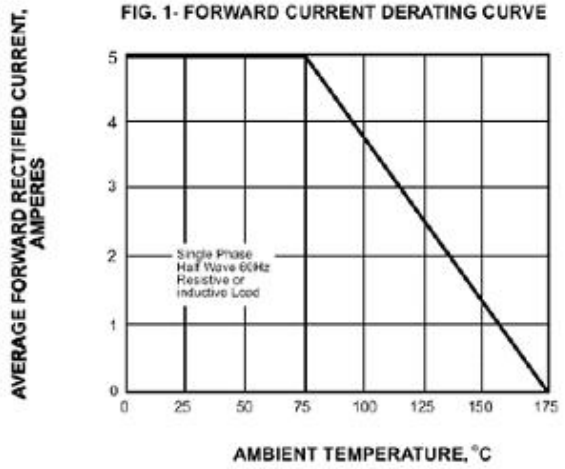



FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

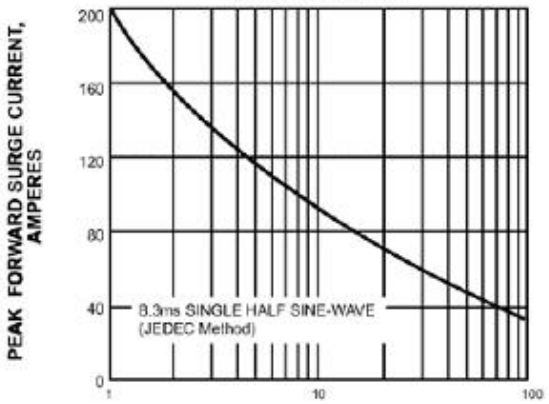



FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

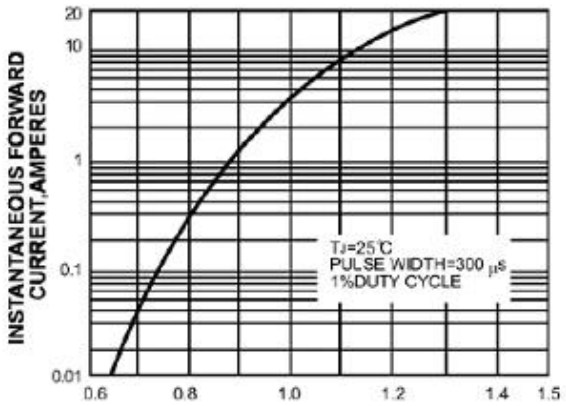



FIG. 4-TYPICAL REVERSE CHARACTERISTICS

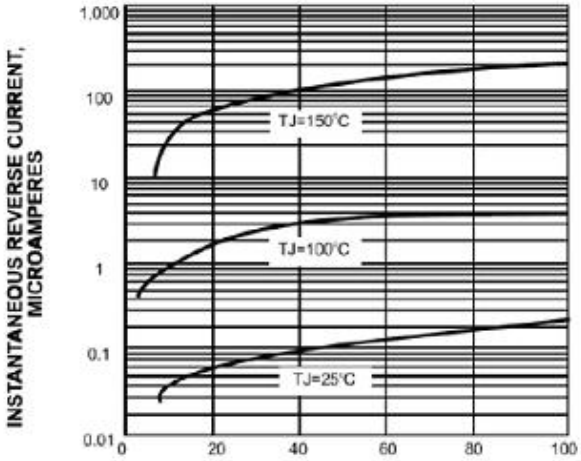



FIG. 5-TYPICAL JUNCTION CAPACITANCE

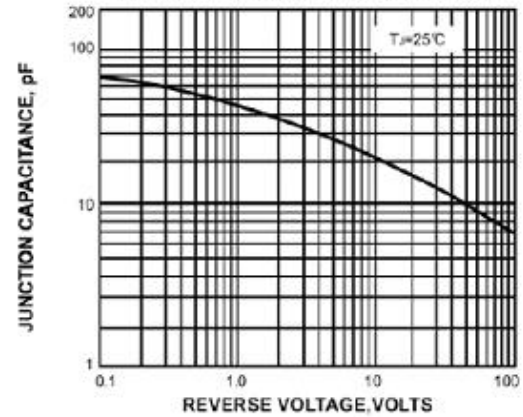
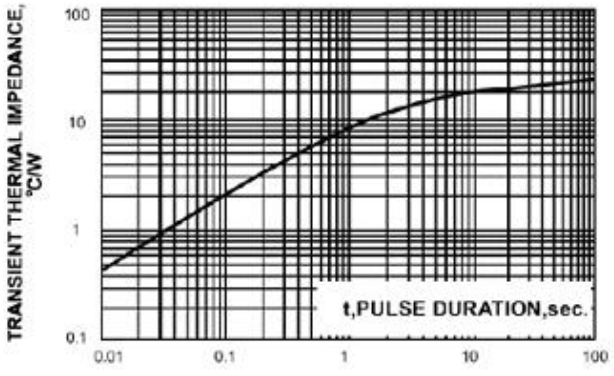



FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

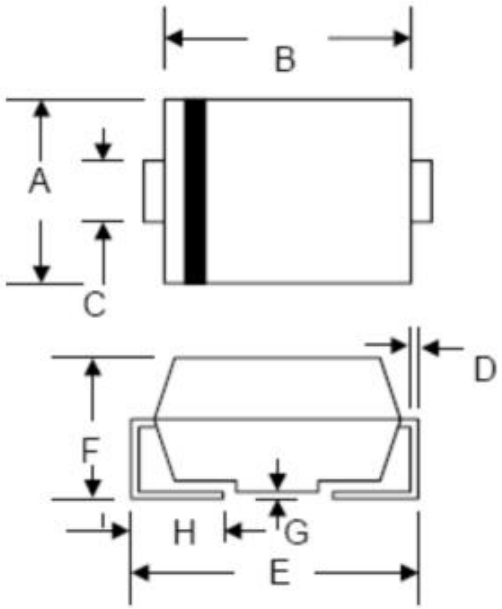


# SD560B

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## Mechanical Dimensions SMB




| SYMBOL | Millimeters | | Inches | |
|---|---|---|---|---|
| | Min. | Max. | Min. | Max. |
| A | 3.30 | 3.94 | 0.130 | 0.155 |
| B | 4.06 | 4.70 | 0.160 | 0.185 |
| C | 1.80 | 2.20 | 0.071 | 0.087 |
| D | 0.152 | 0.305 | 0.006 | 0.012 |
| E | 4.80 | 5.59 | 0.189 | 0.220 |
| F | 2.10 | 2.60 | 0.083 | 0.102 |
| G | 0.051 | 0.203 | 0.002 | 0.008 |
| H | 0.76 | 1.52 | 0.030 | 0.060 |

## Ordering Information

| Device | Package | Shipping |
|---|---|---|
| SD560B | SMB | 3000pcs / reel |

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

## Marking Diagram

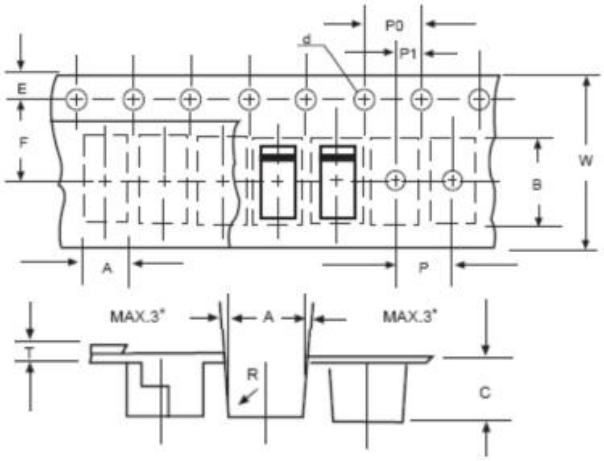



Where XXXXX is YYWWL

SD560B = Part Name
YY = Year
WW = Week
L = Lot Number

**Cautions:** Molding resin
Epoxy resin UL:94V-0

## Carrier Tape Specification SMB




| SYMBOL | Millimeters | |
|---|---|---|
| | Min. | Max. |
| A | 3.99 | 4.19 |
| B | 5.72 | 5.92 |
| C | 3.23 | 3.43 |
| d | 1.40 | 1.60 |
| E | 1.40 | 1.60 |
| F | 5.60 | 5.70 |
| P | 7.90 | 8.10 |
| P0 | 3.90 | 4.10 |
| P1 | 1.90 | 2.10 |
| T | - | 0.60 |
| W | 11.80 | 12.20 |

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