

SURFACE MOUNT GENERAL PURPOSE RECTIFIERS



S1AAF to S1MAF SMAF SURFACE MOUNT PLASTIC PACKAGE (RoHS Compliant)

Features :

- 1). Glass Passivated Junction Chip
- 2). The Plastic Package has Underwriters Laboratory Flammability Classification 94V-0.
- 3). Low Reverse Leakage
- 4). Built-in Strain Relief, Ideal for Automated Placement.
- 5). High Forward Surge Current Capability.
- 6). High Temperature Soldering : 260°C / 10 seconds at Terminals.
- 7). Colour Band denotes the Cathode end.
- 8). Terminals Solder Plated, Solderable as per MIL-STD-750, Method 2026
- 9). Weight : 0.038 grams

Maximum Ratings And Electrical Characteristics

(Ratings at $T_A = 25^\circ\text{C}$ Ambient Temperature unless otherwise specified.

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

DESCRIPTION	SYMBOL	S1A AF	S1B AF	S1D AF	S1G AF	S1J AF	S1K AF	S1M AF	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at $T_L=110^\circ\text{C}$	$I_{F(AV)}$	1.0							A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	30							A
Maximum Instantaneous Forward Voltage at $I_F=1\text{A}$	V_F	1.1							V
Maximum DC Reverse Current @ Rated DC Blocking Voltage	$T_A=25^\circ\text{C}$	I_R							μA
	$T_A=100^\circ\text{C}$	50							μA
Typical Junction Capacitance (Note 1)	C_J	15							pF
Typical Thermal Resistance (Note 2)	$R_{th(J-A)}$	75							$^\circ\text{C/W}$
Operating Junction and Storage Temperature Range	$T_J; T_{STG}$	- 55 to +150							$^\circ\text{C}$

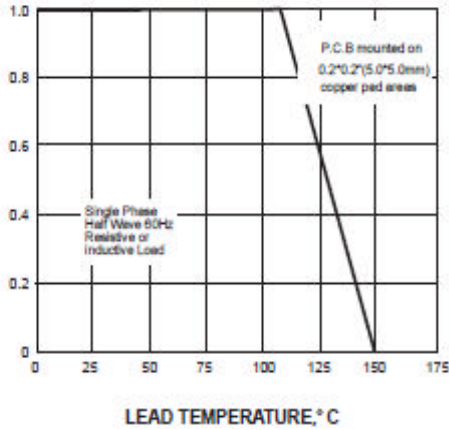
NOTES:

1. Measured at 1MHz and Applied Reverse Voltage of 4.0V D.C.
2. P.C.B. mounted with 0.2 X 0.2" (5.0 X 5.0mm) Copper Pad Area

CHARACTERISTICS CURVES

AVERAGE FORWARD RECTIFIED CURRENT,
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT,
AMPERES

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

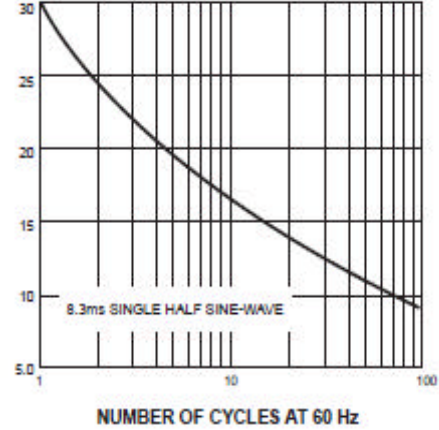
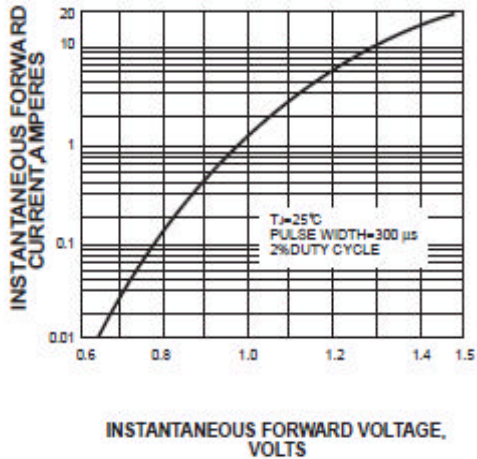


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT,
MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

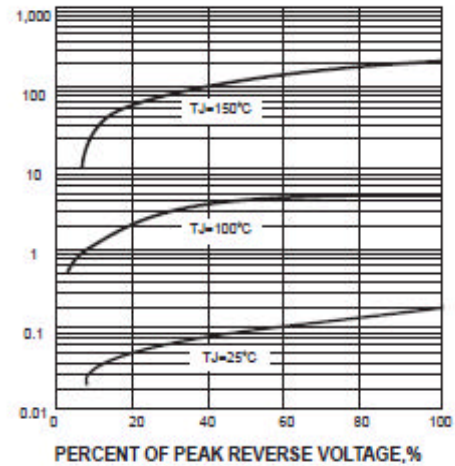
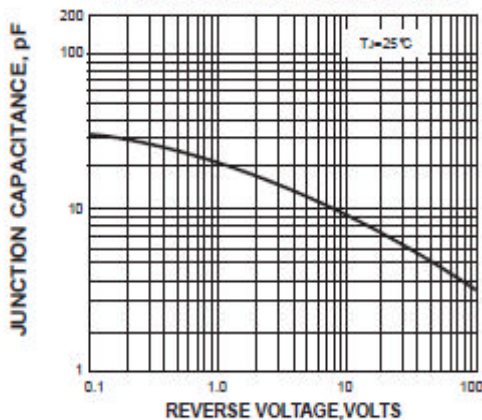
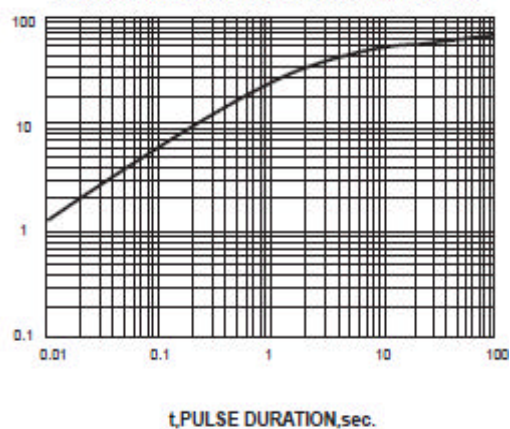


FIG. 5-TYPICAL JUNCTION CAPACITANCE



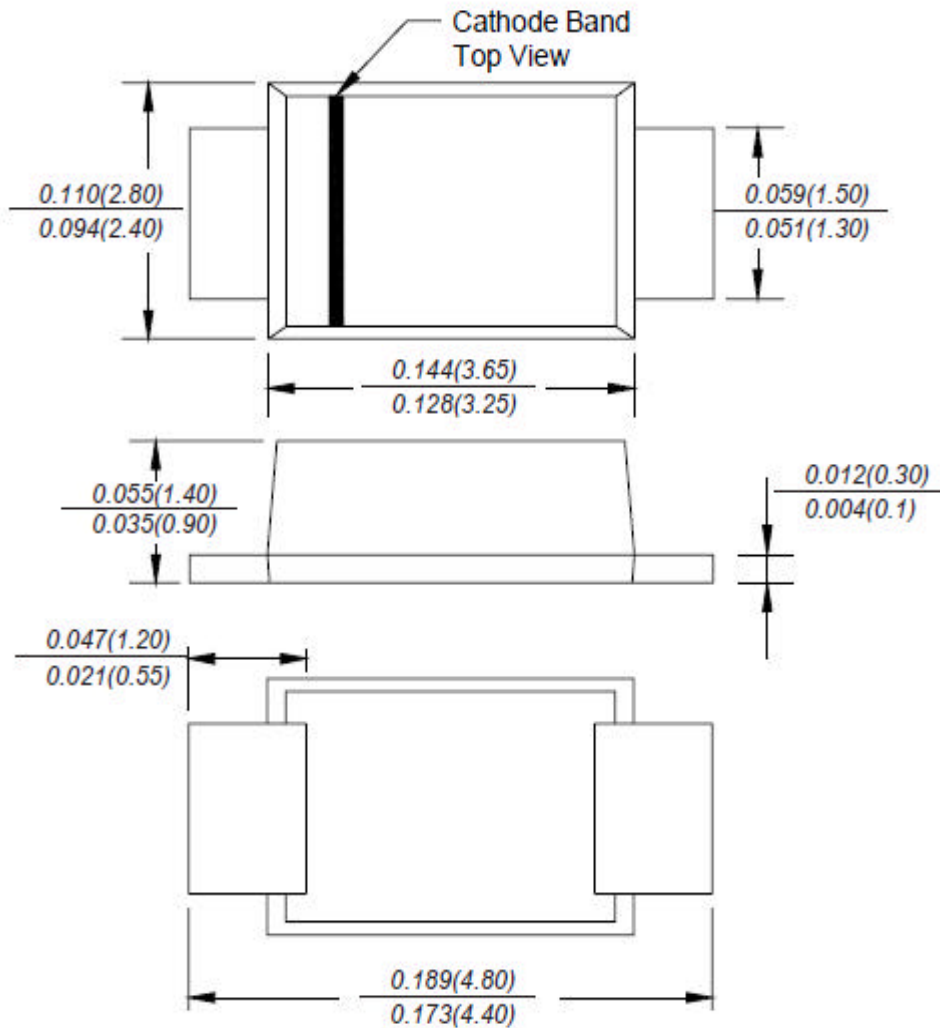
TRANSIENT THERMAL IMPEDANCE,
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



SMAF PACKAGE OUTLINE AND DIMENSIONS

SMAF



Dimensions in inches and (millimeters)



Continental Device India Pvt. Limited
An ISO/TS 16949, ISO 9001 and ISO 14001 Certified Company



Customer Notes

Component Disposal Instructions

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Discrete Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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