

General Purpose Surface Mount Rectifiers

Reverse Voltage: 50 to 1000V
Forward Current: 2.0 Amp

Features

- Low profile package
- For surface mounted applications
- Glass passivated chip junction
- High forward surge capability
- High temperature soldering guaranteed
260°C/10 seconds at terminals

Mechanical Data

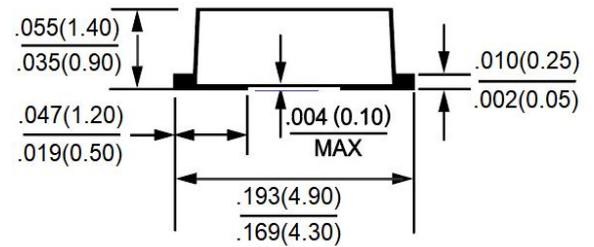
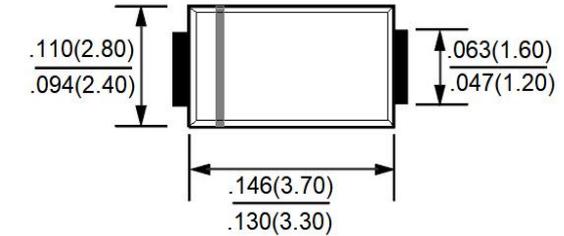
- **Package:** SMAF
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per MIL-STD-750, Method 2026
- **Polarity:** Cathode line denotes the cathode end

Typical Applications

For use in general purpose rectification of power supplies, inverters, converters, and freewheeling diodes for consumer and telecommunication.

SMAF

RoHS COMPLIANT
HALOGEN FREE



Package Outline Dimensions in Inches (Millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter&Test Conditions	SYM.	S2AF	S2BF	S2DF	S2GF	S2JF	S2KF	G2MF	Unit	
Device marking code		S2A	S2B	S2D	S2G	S2J	S2K	S2M		
Maximum Recurrent 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	
Average rectified output current @60Hz sine wave, Resistance load, TL (FIG.1)	I _{O(AV)}	2.0								A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rated Load	I _{FSM}	50								A
Maximum Thermal Resistance, Junction To Ambient (Note1)	R _{θJA}	125								°C/W
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +150								°C

Electrical Characteristics (Ta=25°C Unless otherwise specified)

Parameter&Test Conditions	SYM.	S2AF	S2BF	S2DF	S2GF	S2JF	S2KF	G2MF	Unit	
Maximum Instantaneous Forward Voltage IFM =2A	V _{FM}	1.1								V
Maximum DC reverse current at rated DC blocking voltage	TA = 25°C	5								μA
	TA = 125°C	100								
Typical junction capacitance(Note2)	C _J	12								pF

Notes:

1. Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas.
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
3. The typical data above is for reference only.

Rating and Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED

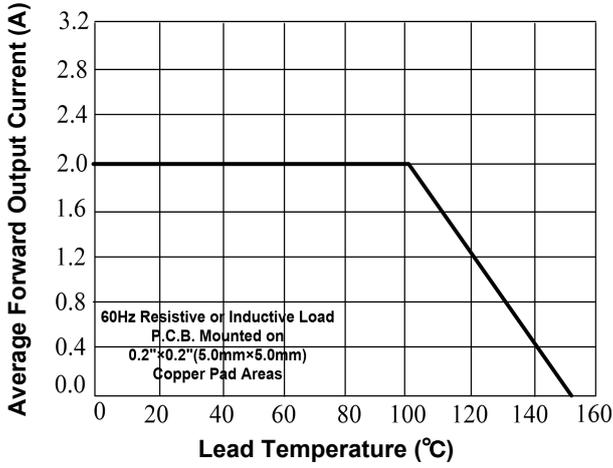


FIG. 2- -MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER IEC

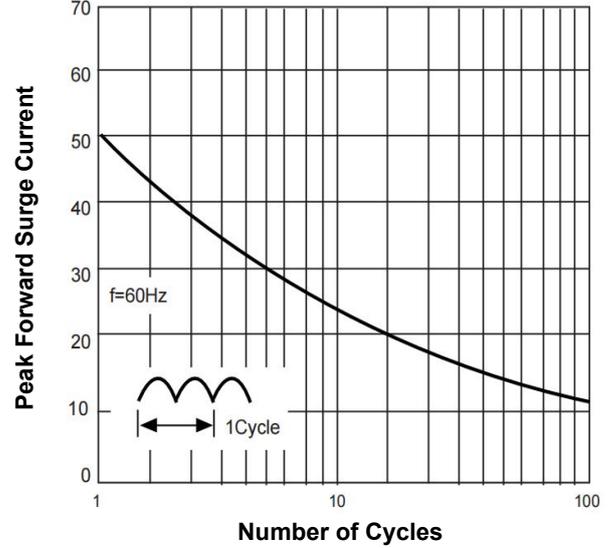


FIG. 3- TYPICAL FORWARD VOLTAGE

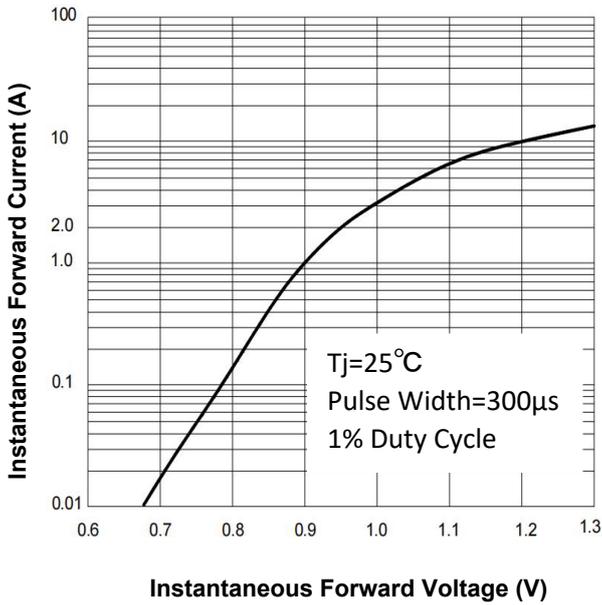
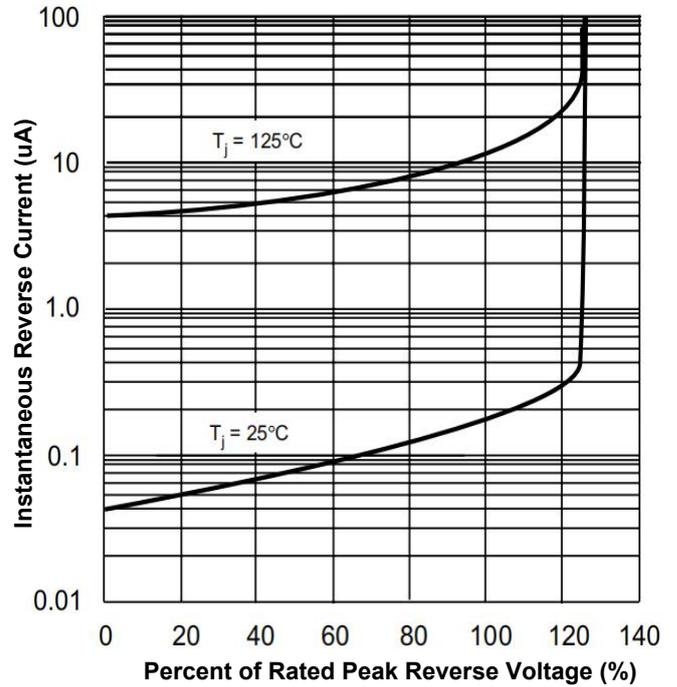
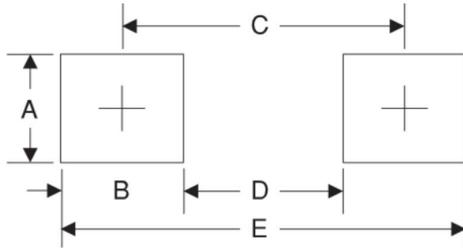


FIG. 4- TYPICAL REVERSE LEAKAGE



The curve above is for reference only.

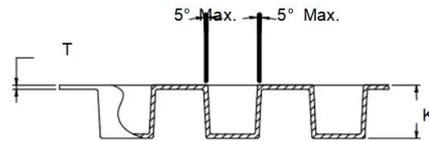
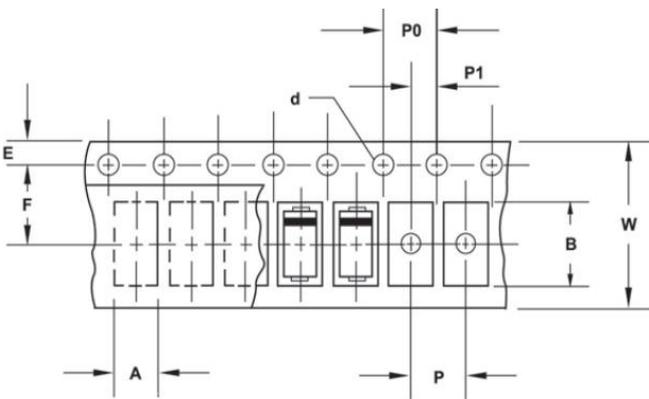
Recommended Pad Layout



SYMBOL	Millimeters
A	1.70
B	2.50
C	3.90
D	1.50
E	6.50

Package Information

Carrier Dimension(mm)



W	F	d	E
12.0	5.5	∅ 1.55	1.75
A	B	K	T
2.9	4.95	1.35	0.25
P0	P1	P	Tolerance
4.0	2.0	4.0	0.10

Package Specifications

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (Kpcs)	Box Size (mm)	QTY/Box (Kpcs)	Carton Size (mm)	Q'TY/Carton (Kpcs)
SMAF	11'	278	5	290	10	310*310*400	100
	13'	330	10	340	20	370*360*360	200

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