

Surface Mount Rectifier



Features:

- Low Profile Package
- For Surface Mounted Applications
- High Current Capability
- Built-In Strain Relief, Ideal for Automated Placement
- High Temperature Soldering : 260°C/10 seconds at Terminals

Mechanical Data

- Case : JEDEC SMB molded plastic over passivated chip
- Terminals : Solder Plated, solderable per MIL-STD- 750, Method 2026
- Polarity : Colour band denotes cathode end
- Weight : 0.003oz, 0.093g

Maximum Ratings and Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified

Characteristic	Symbol	S1AB-13-F	S1MB-13-F	Units
Maximum repetitive peak reverse voltage	V_{RRM}	50	1,000	V
Maximum RMS voltage	V_{RMS}	35	700	V
Maximum DC blocking voltage	V_{DC}	50	1,000	V
Maximum average forward rectified current at $T_L=110^\circ\text{C}$	$I_{F(AV)}$	1		A
Peak forward surge current @ $T_L = 110^\circ\text{C}$ 8.3ms single half-sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30		A
Maximum instantaneous forward voltage at 1A	V_F	1.1		V
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=125^\circ\text{C}$	I_R	1 50		μA
Typical junction capacitance (Note 1)	C_J	12		pF
Typical thermal resistance (Note 2)	$R_{\theta JA}$	50		$^\circ\text{C/W}$
Operating junction and storage temperature range	T_{JTS}, T_G	-55 to +150		$^\circ\text{C}$

Note:

(1) Measured at 1MHz and applied reverse voltage of 4V

(2) Thermal resistance from junction to ambient and junction to lead PCB mounted on 0.27" x 0.27" (7 x 7mm²) copper pad areas

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FIG.1 – FORWARD DERATING CURVE

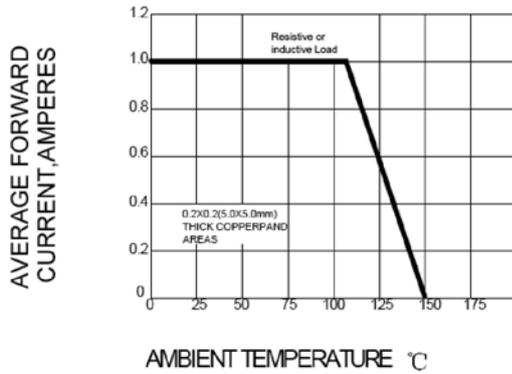


FIG.2 PEAK FORWARD SURGE CURRENT

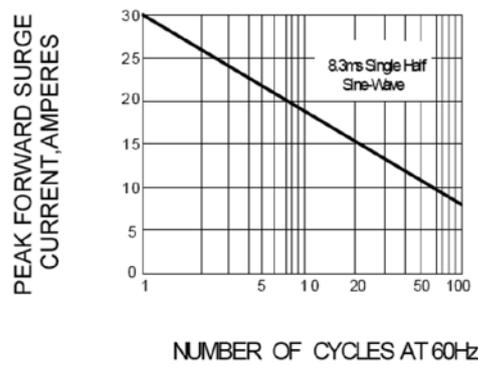


FIG.3 – TYPICAL FORWARD CHARACTERISTICS

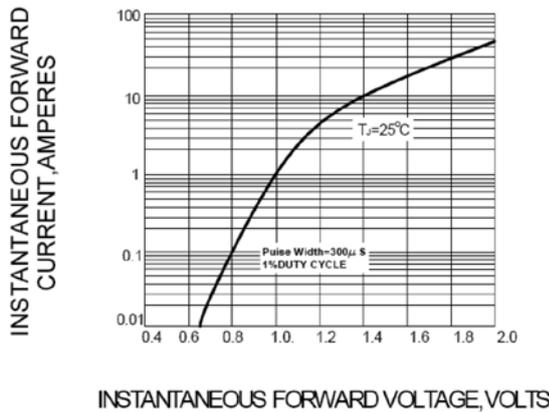


FIG.4 – TYPICAL REVERSE CHARACTERISTICS

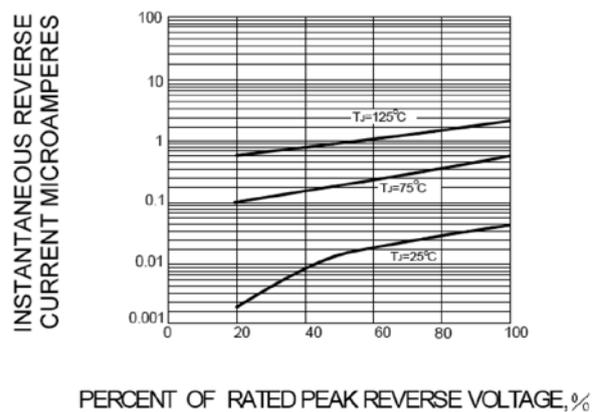


FIG.5-TYPICAL JUNCTION CAPACITANCE

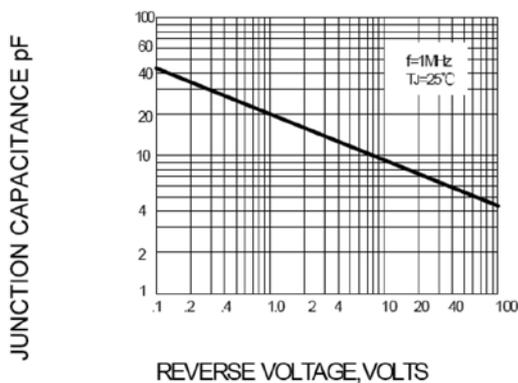
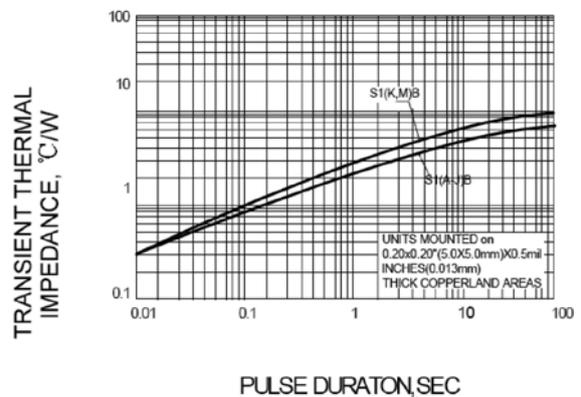


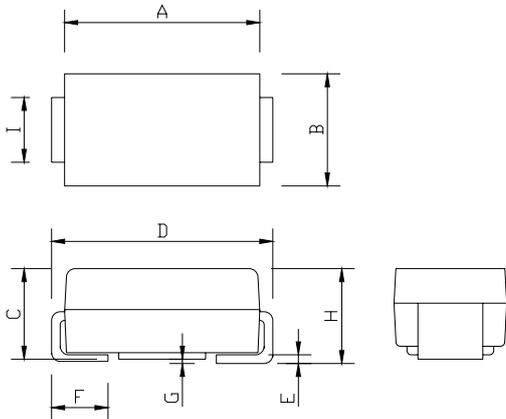
FIG.6-TRANSIENT THERMAL IMPEDANCE



Surface Mount Rectifier



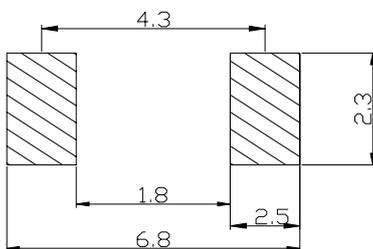
Package Outline Dimensions



DO-214AA(SMB)		
Dim.	Min.	Max.
A	4.3	4.7
B	3.3	3.7
C	2	2.3
D	5.05	5.55
E	0.2 Typ.	
F	0.95	1.55
G	0.2 Max.	
H	2.1	2.5
I	1.85	2.15

Dimensions : Millimetres

Soldering Footprint



Dimensions : Millimetres

Package Information

Device	Package	Shipping
S1AB -13-F S1MB -13-F	DO-214AA(SMB)	3,000 / Tape & Reel

Part Number Table

Description	Part Number
Surface Mount Rectifier	S1AB-13-F
	S1MB-13-F

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