

Surface Mount Rectifier



Features:

- Low Profile Package
- For Surface Mounted Applications
- Built-In Strain Relief, Ideal for Automated Placement
- High Temperature Soldering: 250°C/10 seconds at Terminals

Mechanical Data

- Case : JEDEC DO-214AA, 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	RS1MB-13-F	Units
Maximum repetitive peak reverse voltage	V_{RRM}	1,000	V
Maximum RMS voltage	V_{RWS}	700	V
Maximum DC blocking voltage	V_{DC}	1,000	V
Maximum average forward rectified current at $T_L=90^\circ\text{C}$	$I_{F(AV)}$	1	A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load	I_{FSM}	30	A
Maximum instantaneous forward voltage at 1A	V_F	1.3	V
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=125^\circ\text{C}$	I_R	5 50	μA
Typical reverse recovery time (Note 1)	t_{rr}	500	ns
Typical junction capacitance (Note 2)	C_J	7	pF
Typical thermal resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JL}$	105 32	$^\circ\text{C/W}$
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

Note:

- (1) Reverse recovery time test conditions: $I_F=0.5\text{A}$, $I_R=1\text{A}$, $I_{rr}=0.25\text{A}$
- (2) Measured at 1MHz and applied reverse voltage of 4V
- (3) Thermal resistance from junction to ambient and junction to lead PCB mounted on 0.2" x 0.2" (5 x 5mm²) copper pad areas

Fig. 1 — Forward Current Derating Curve

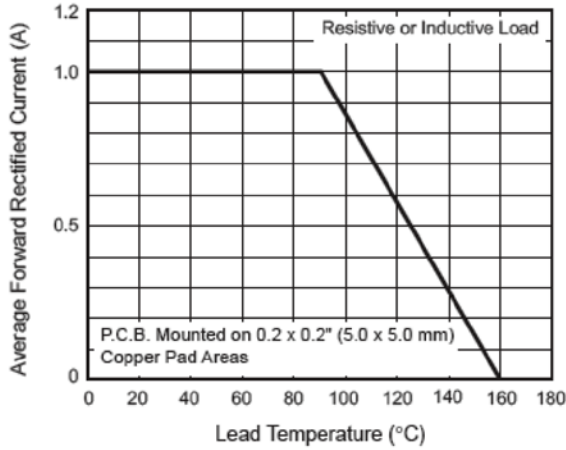


Fig. 2 — Maximum Non-Repetitive Peak Forward Surge Current

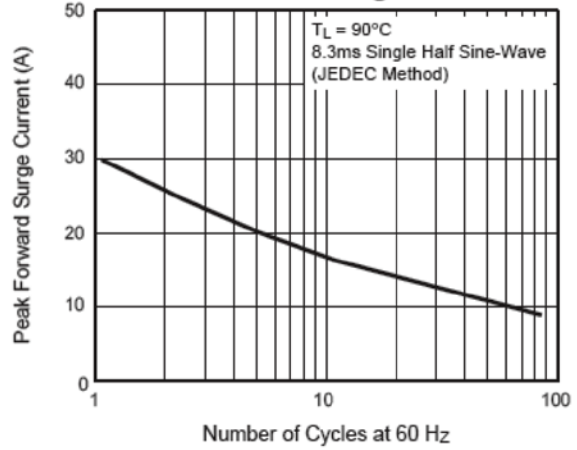


Fig. 3 — Typical Instantaneous Forward Characteristics

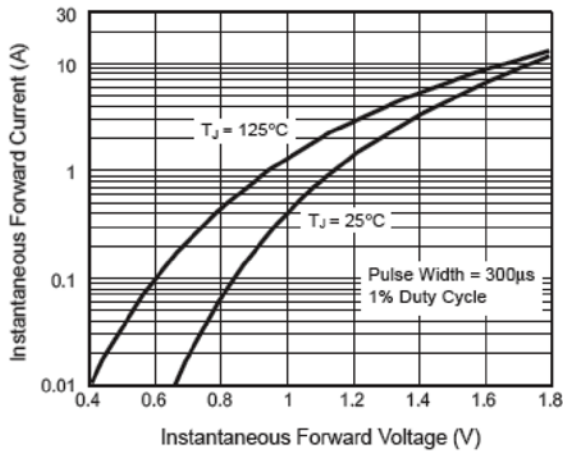


Fig. 4 — Typical Reverse Characteristics

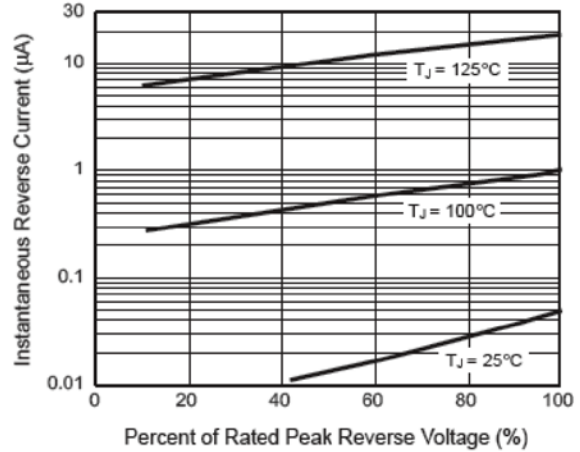


Fig. 5 — Typical Junction Capacitance

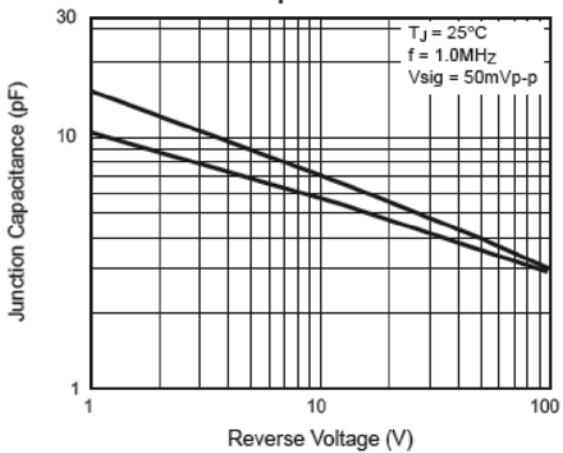
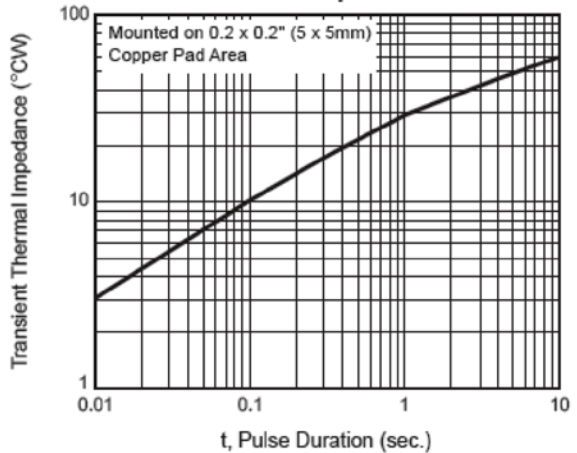
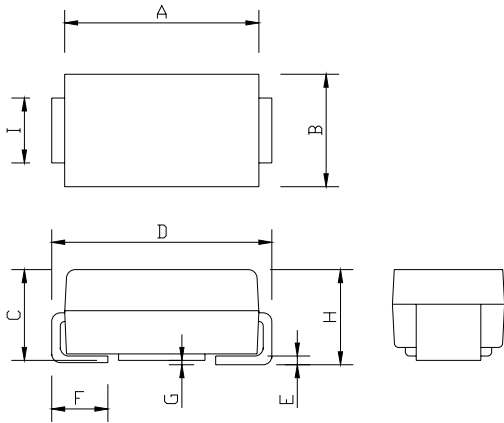


Fig. 6 — Typical Transient Thermal Impedance



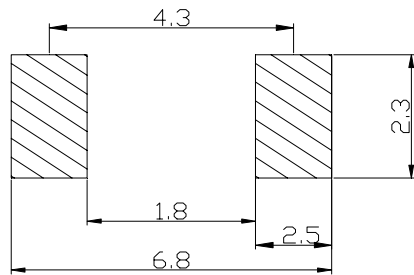
Package Outline Dimensions



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
RS1MB-13-F	DO-214AA(SMB)	3,000 / Tape & Reel

Part Number Table

Description	Part Number
Surface Mount Rectifier	RS1MB-13-F

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