

Surface Mount Rectifier



Features:

- Optimized for Lan Protection Applications
- Low Profile Package With Built-In Strain Relief For Surface Mounted Applications
- Low Incremental Surge Resistance, Excellent Clamping Capability
- 400W Peak Pulse Power Capability With A 10/1,000Ms Wave Form, Repetition Rate (Duty Cycle) : 0.01% (300W Above 78V)
- Very Fast Response Time
- High Temperature Soldering Guaranteed : 260°C/10 seconds at Terminals

Mechanical Data

- Case : JEDEC SMA molded plastic over passivated chip
- Terminals : Solder plated, solderable per MIL-STD-750, method 2026
- Polarity : Colour band denotes cathode end
- Weight : 0.002oz, 0.064g

Maximum Ratings and Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified

Characteristic	Symbol	S1A-13-F	S1B-13-F	S1D-13-F	S1G-13-F	S1J-13-F	S1K-13-F	S1M-13-F	Units
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1,000	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	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	1.05							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_J, T_{STG}	-55 to +175							$^\circ\text{C}$

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

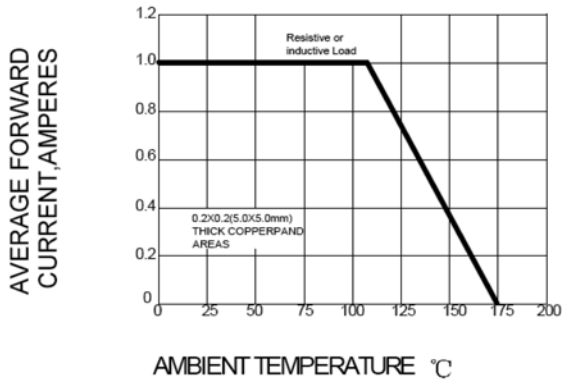


FIG.2 PEAK FORWARD SURGE CURRENT

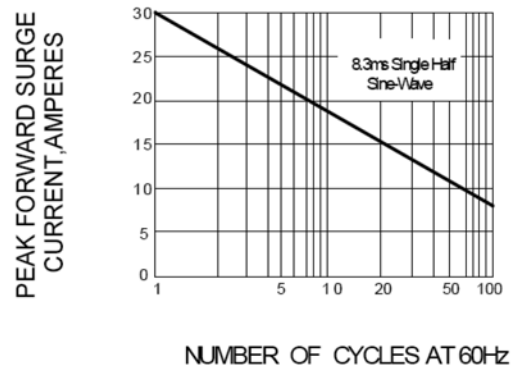


FIG.3 – TYPICAL FORWARD CHARACTERISTICS

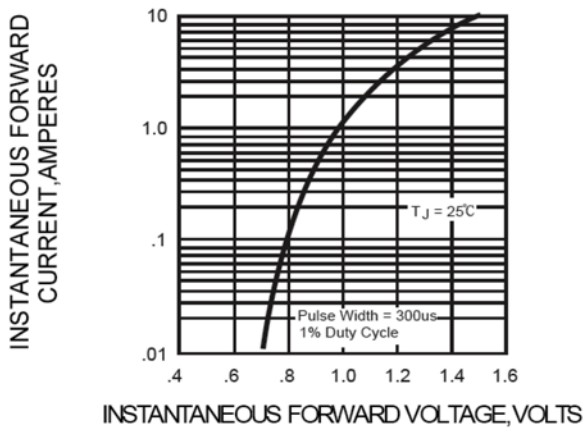


FIG.4 – TYPICAL REVERSE CHARACTERISTICS

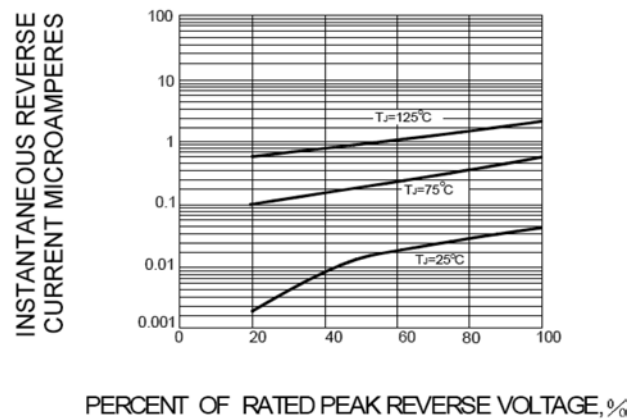


FIG.5-TYPICAL JUNCTION CAPACITANCE

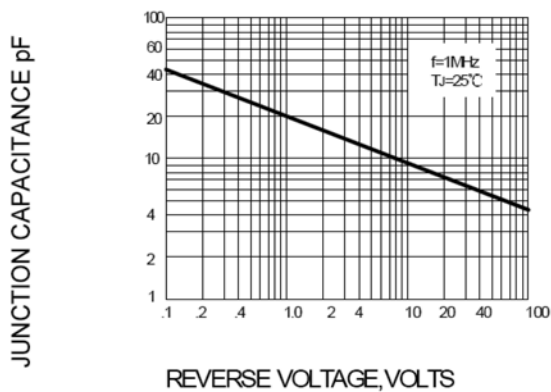
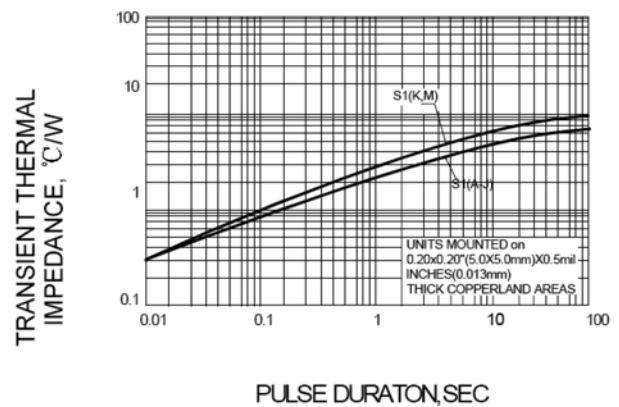


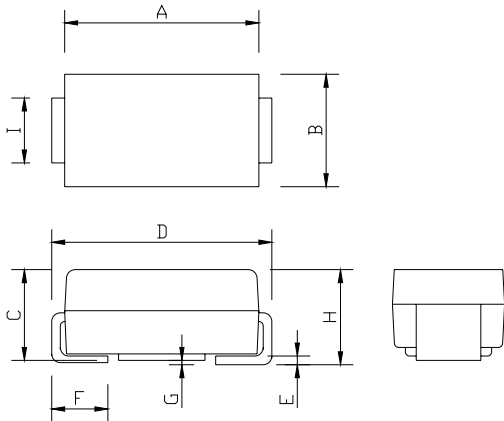
FIG.6-TRANSIENT THERMAL IMPEDANCE



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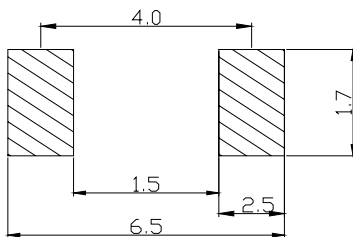
Package Outline Dimensions



DO-214AC(SMA)		
Dim.	Min.	Max.
A	4.25	4.65
B	2.4	2.8
C	1.85	2.15
D	4.85	5.35
E	0.2 Typ.	
F	0.9	1.5
G	0.2 Max.	
H	1.9	2.3
I	1.35	1.65

Dimensions : Millimetres

Soldering Footprint



Dimensions : Millimetres

Package Information

Device	Package	Shipping
S1A-13-F S1B-13-F S1D-13-F S1G-13-F S1J-13-F S1K-13-F S1M-13-F	DO-214AC (SMA)	5,000 / Tape & Reel

Part Number Table

Description	Part Number
Surface Mount Rectifier	S1A-13-F
	S1B-13-F
	S1D-13-F
	S1G-13-F
	S1J-13-F
	S1K-13-F
	S1M-13-F

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