

# Surface Mount Rectifier



## Features:

- Low Profile Package
- For Surface Mounted Applications
- Built-In Strain Relief, Ideal for Automated Placement
- High Temperature Soldering : 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

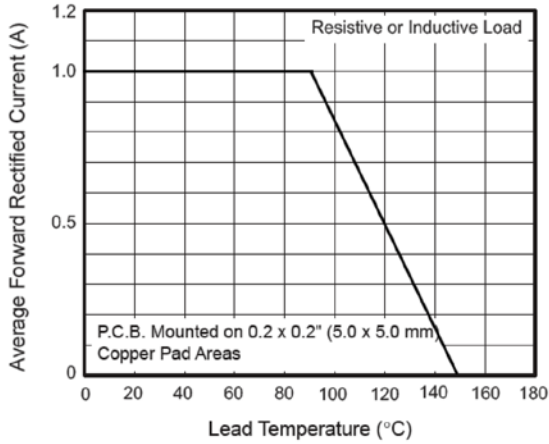
Ratings at 25°C ambient temperature unless otherwise specified

Characteristic	Symbol	RS1D-13-F	RS1J-13-F	RS1K-13-F	RS1M-13-F	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	200	600	800	1,000	V
Maximum RMS voltage	$V_{RMS}$	140	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	200	600	800	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				$\mu\text{A}$
Typical reverse recovery time (Note 1)	$t_{IT}$	150	250	500		ns
Typical junction capacitance (Note 2)	$C_J$	10		7		pF
Typical thermal resistance (Note3)	$R_{\theta JA}$ $R_{\theta JL}$	105 32				$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +175				$^\circ\text{C}$

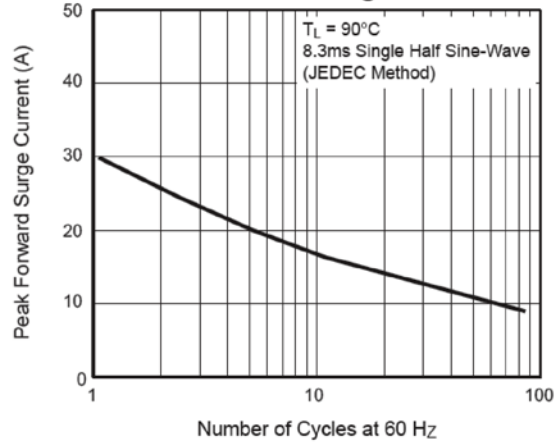
### Note:

- (1) Reverse recovery time test conditions :  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$
- (2) Measured at 1MHz and applied reverse voltage of 4V
- (3) Thermal resistance from junction to lead

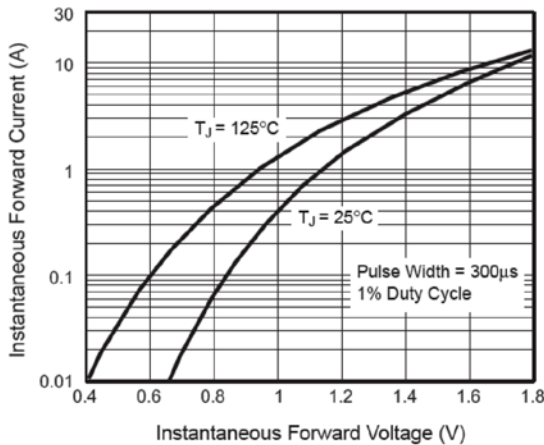
**Fig. 1 — Forward Current Derating Curve**



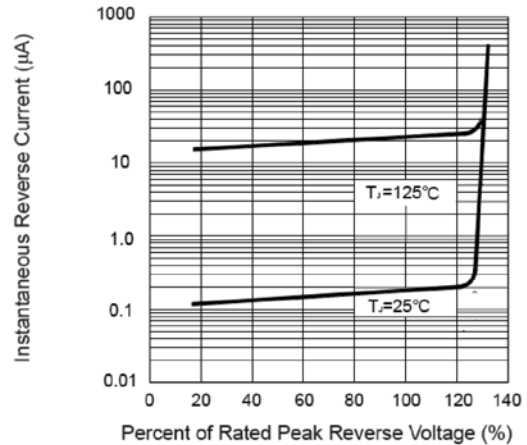
**Fig. 2 — Maximum Non-Repetitive Peak Forward Surge Current**



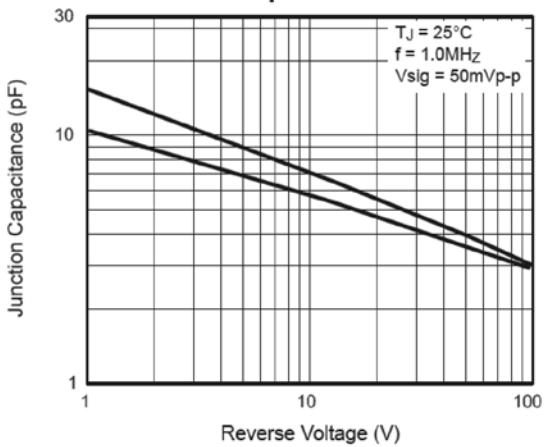
**Fig. 3 — Typical Instantaneous Forward Characteristics**



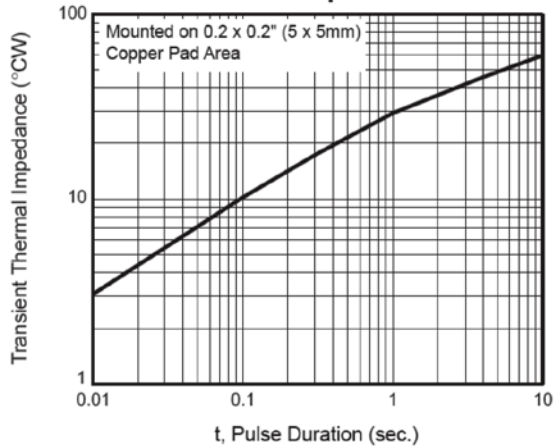
**Fig. 4 — Typical Reverse Characteristics**



**Fig. 5 — Typical Junction Capacitance**



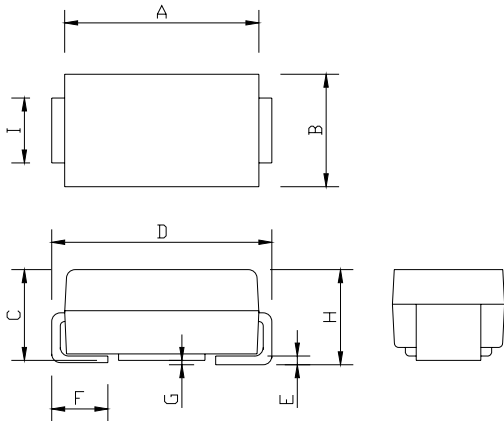
**Fig. 6 — Typical Transient Thermal Impedance**



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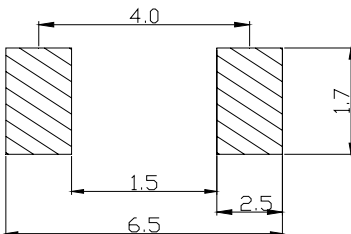
## Package Outline Dimensions



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
RS1D-13-F RS1J-13-F RS1K-13-F RS1M-13-F	DO-214AC(SMA)	5,000 / Tape & Reel

## Part Number Table

Description	Part Number
Surface Mount Rectifier	RS1D-13-F
	RS1J-13-F
	RS1K-13-F
	RS1M-13-F

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