

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitance load, derate current by 20%.

Characteristic	Symbol	S8KC	S8MC	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	800	1,000	V
Working Peak Reverse Voltage	V _{RWM}			
DC Blocking Voltage	V _R			
RMS Reverse Voltage	V _{R(RMS)}	560	700	V
Average Rectified Output Current @ T _T = +75°C	I _O	8.0		A
Non-Repetitive Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	200		A
Non-Repetitive Peak Forward Surge Current, 1.0ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	450		A
I ² t Rating for fusing (t < 8.3ms)	I ² t	166		A ² S

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Terminal (Note 6)	R _{θJT}	10	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value		Unit
Minimum Reverse Breakdown Voltage @ I _R = 10μA	V _{(BR)R}	S8MC S8KC	1,000 800	V
Maximum Forward Voltage @ I _F = 8.0A	V _{FM}	0.985		V
Peak Reverse Current @ T _A = +25°C @ T _A = +125°C	I _{RM}	10 250		μA
Typical Reverse Recovery Time (Note 7)	T _{RR}	2,700		ns
Typical Total Capacitance (Note 5)	C _T	45		pF

Note: 5. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
6. Thermal resistance junction to terminal, device mounted on 100.5mm x 102.5mm x 1.7mm Cu plate heatsink.
7. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A.

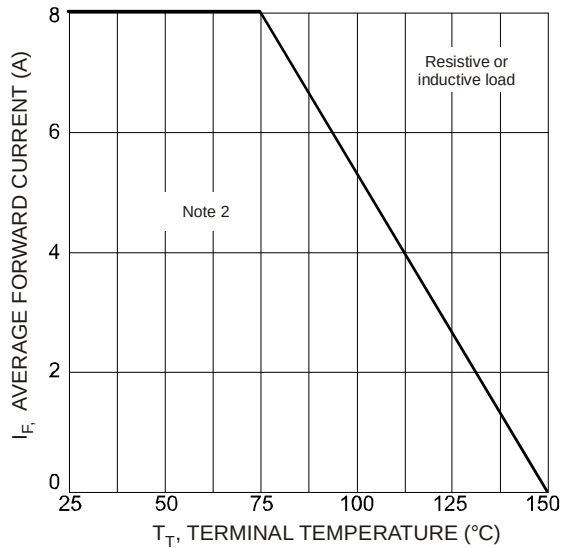


Fig. 1 Forward Current Derating Curve

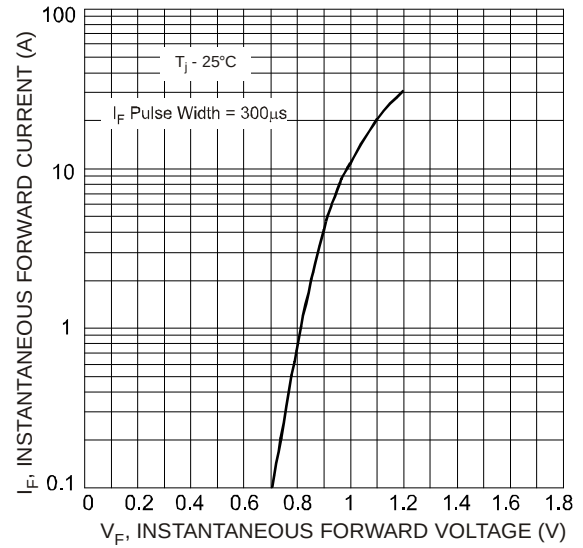


Fig. 2 Typical Forward Characteristics

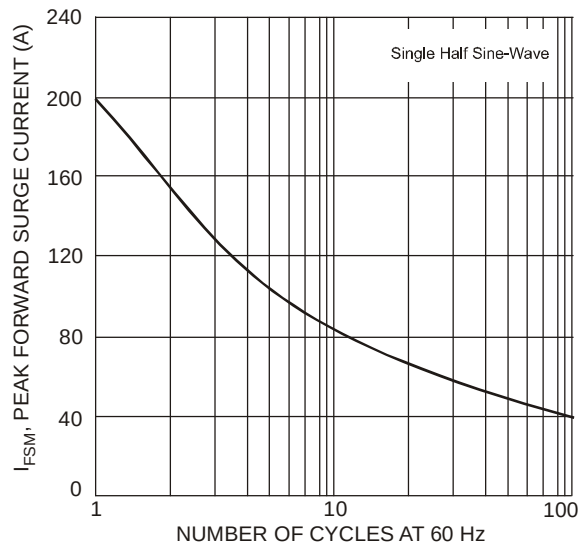


Fig. 3 Forward Surge Current Derating Curve

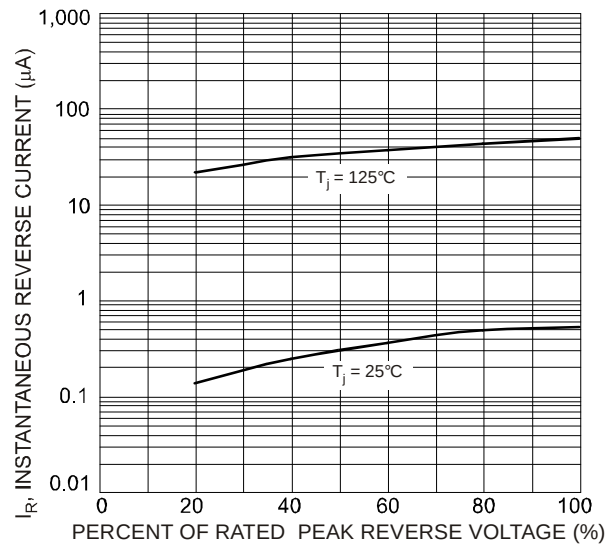
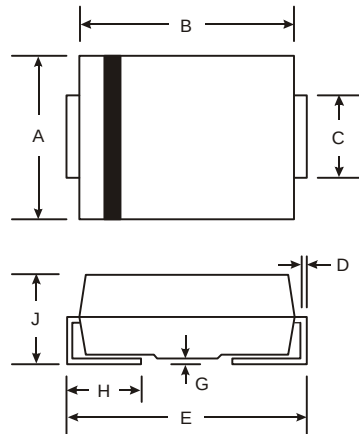


Fig. 4 Typical Reverse Characteristics

Package Outline Dimensions

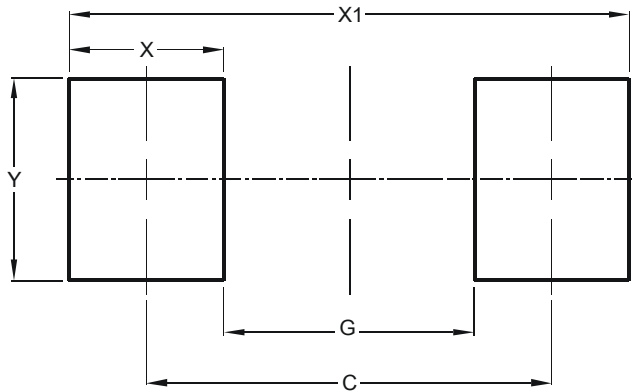
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SMC		
Dim	Min	Max
A	5.59	6.22
B	6.60	7.11
C	2.75	3.18
D	0.15	0.31
E	7.75	8.13
G	0.10	0.20
H	0.76	1.52
J	2.00	2.50
All Dimensions in mm		

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.



Dimensions	Value (in mm)
C	6.80
G	4.40
X	2.50
X1	9.40
Y	3.30

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