

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

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

Characteristic	Symbol	ES2A/A	ES2B/A	ES2C/A	ES2D/A	Unit
Peak Repetitive Reverse Voltage	V_{RRM}					
Working Peak Reverse Voltage	V_{RWM}	50	100	150	200	V
DC Blocking Voltage (Note 4)	V_R					
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	105	140	V
Average Rectified Output Current @ $T_T = 110^\circ\text{C}$	I_O	2.0				A
Non-Repetitive Peak Forward Surge Current	I_{FSM}	50				A
8.3ms Single half Sine-Wave Superimposed on Rated Load						

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Terminal (Note 5)	$R_{\theta JT}$	20	$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Forward Voltage @ $I_F = 2.0\text{A}$	V_{FM}	0.92	V
Peak Reverse Current @ $T_A = 25^\circ\text{C}$	I_{RM}	5.0	μA
at Rated DC Blocking Voltage (Note 4) @ $T_A = 125^\circ\text{C}$		350	
Typical Total Capacitance (Note 6)	C_T	25	pF
Reverse Recovery Time (Note 7)	t_{rr}	25	ns

- Notes:
4. Short duration pulse test used to minimize self-heating effect.
 5. Unit mounted on PC board with 5.0 mm^2 (0.013 mm thick) copper pads as heat sink.
 6. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
 7. Measured with $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{rr} = 0.25\text{A}$. See Figure 5.

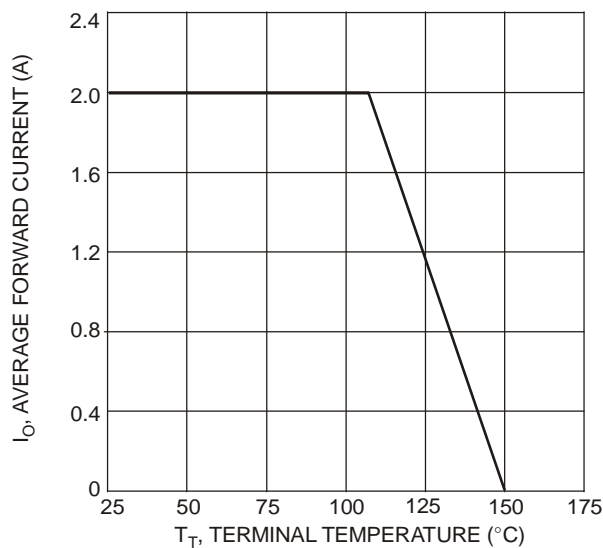


Fig. 1 Forward Current Derating Curve

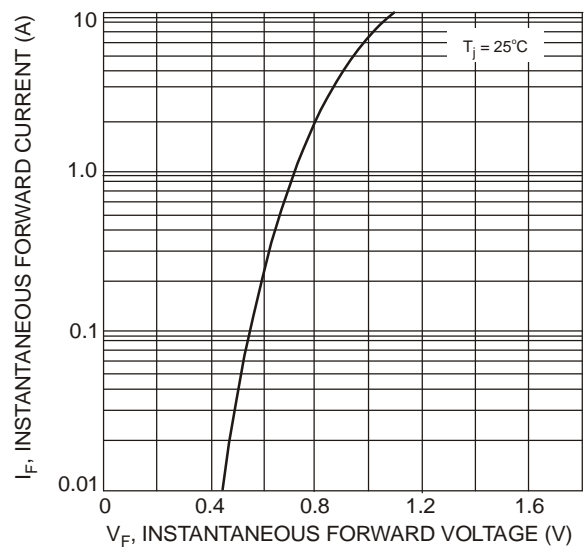


Fig. 2 Typical Forward Characteristics

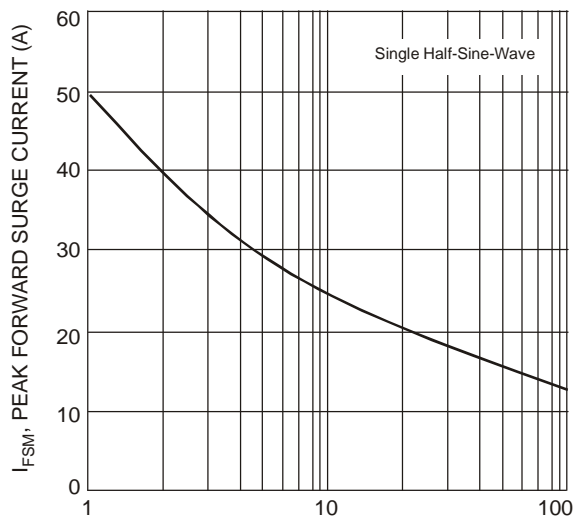


Fig. 3 Surge Current Derating Curve

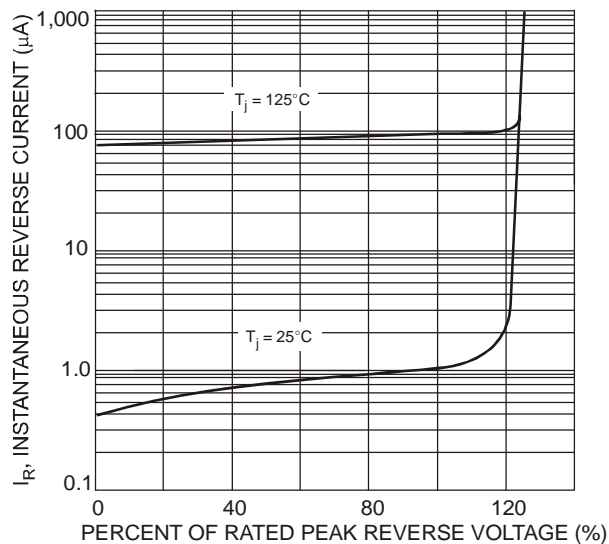
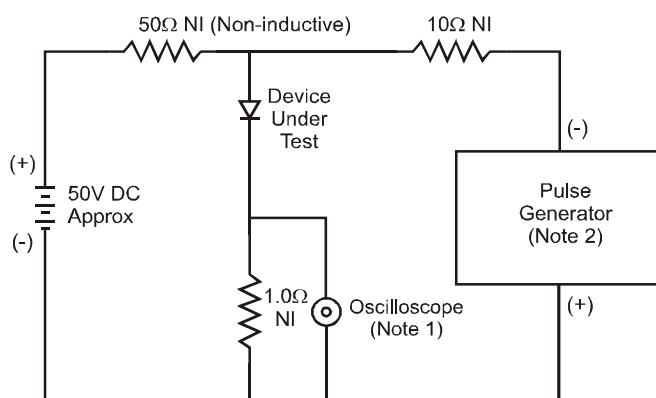


Fig. 4 Typical Reverse Characteristics



Notes:

1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
2. Rise Time = 10ns max. Input Impedance = 50Ω.

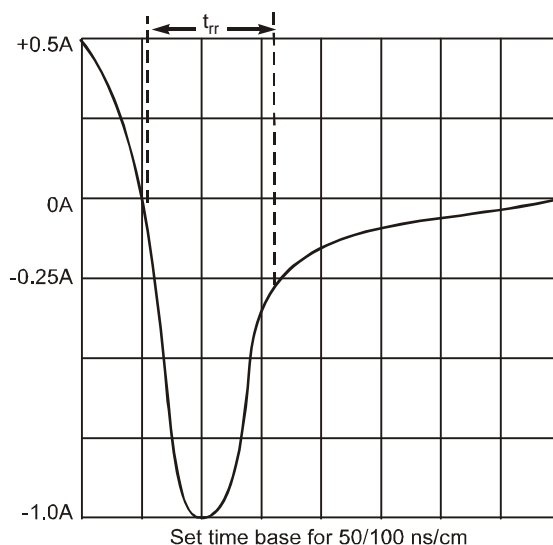
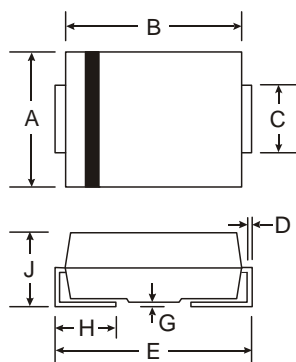


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

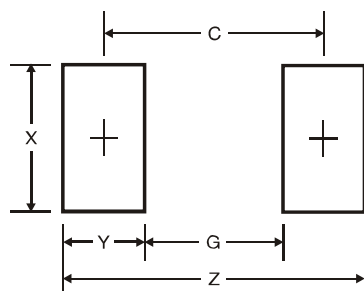
Package Outline Dimensions



SMA		
Dim	Min	Max
A	2.29	2.92
B	4.00	4.60
C	1.27	1.63
D	0.15	0.31
E	4.80	5.59
G	0.05	0.20
H	0.76	1.52
J	2.01	2.30
All Dimensions in mm		

SMB		
Dim	Min	Max
A	3.30	3.94
B	4.06	4.57
C	1.96	2.21
D	0.15	0.31
E	5.00	5.59
G	0.05	0.20
H	0.76	1.52
J	2.00	2.50
All Dimensions in mm		

Suggested Pad Layout



SMA Dimensions	Value (in mm)
Z	6.5
G	1.5
X	1.7
Y	2.5
C	4.0

SMB Dimensions	Value (in mm)
Z	6.7
G	1.8
X	2.3
Y	2.5
C	4.3

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