

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	ES1A	ES1B	ES1C	ES1D	ES1G	Unit	
Peak Repetitive Reverse Voltage	V _{RRM}							
Working Peak Reverse Voltage	V _{RWM}	50	100	150	200	400	V	
DC Blocking Voltage (Note 6)	V _R							
RMS Reverse Voltage	V _{R(RMS)}	35	70	105	140	280	V	
Average Rectified Output Current @ T _T = +110°C	I _O	1.0						A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	30						A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Terminal (Note 5)	R _{θJT}	25	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

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

Characteristic	Symbol	ES1A	ES1B	ES1C	ES1D	ES1G	Unit	
Minimum Reverse Breakdown Voltage (Note 6) I _R = 5μA	V _{(BR)R}	50	100	150	200	400	V	
Maximum Forward Voltage Drop I _F = 0.6A I _F = 1.0A	V _{FM}	0.90 0.92				— 1.25	V	
Peak Reverse Current at Rated DC Blocking Voltage (Note 6) T _A = +25°C T _A = +125°C	I _{RM}	5.0 200						μA
Maximum Reverse Recovery Time (Note 7)	t _{RR}	25						ns
Typical Total Capacitance (Note 8)	C _T	20						pF

- Notes:
5. Unit mounted on PC board with 5.0 mm² (0.013 mm thick) copper pad as heat sink.
 6. Short duration pulse test used to minimize self-heating effect.
 7. Measured with I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A. See figure 5.
 8. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

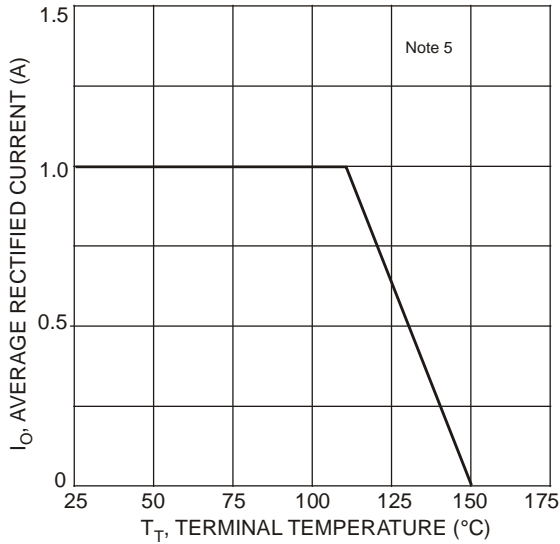


Fig. 1 Forward Current Derating Curve

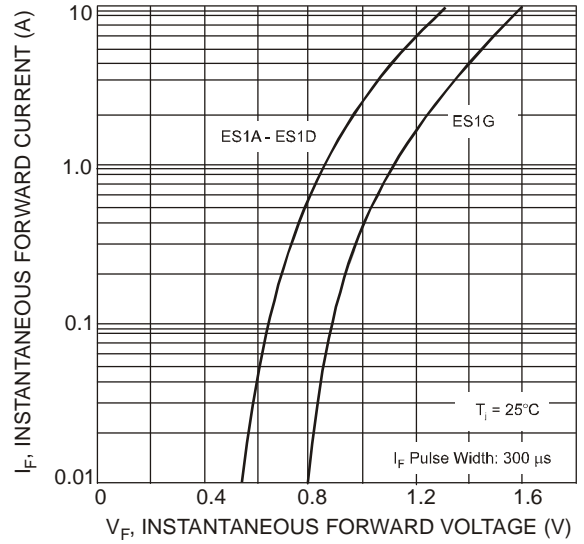


Fig. 2 Typical Forward Characteristics

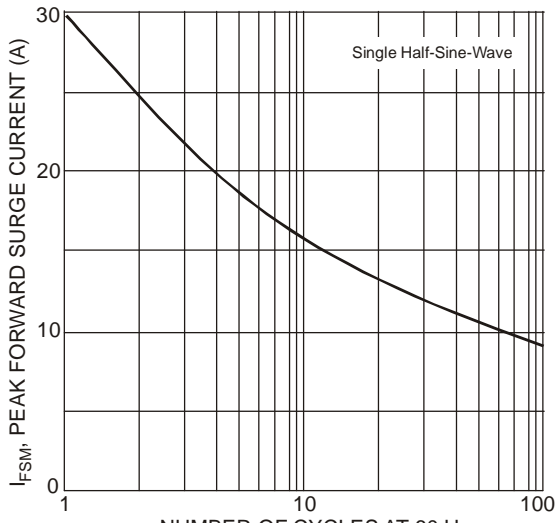


Fig. 3 Surge Current Derating Curve

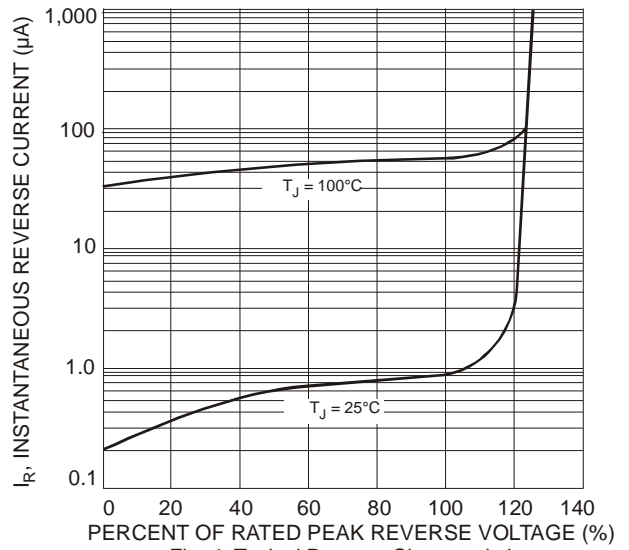
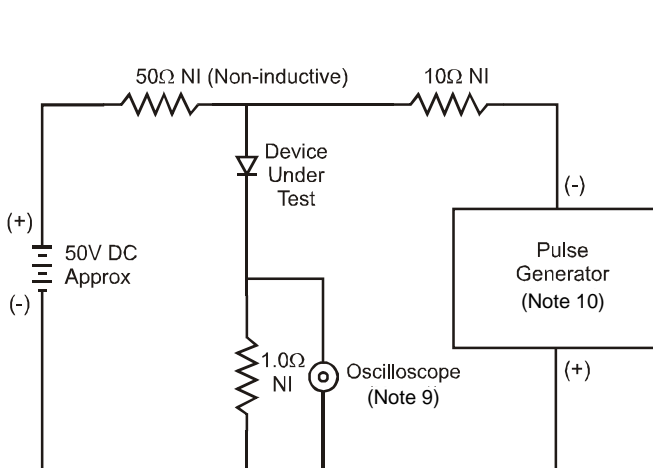
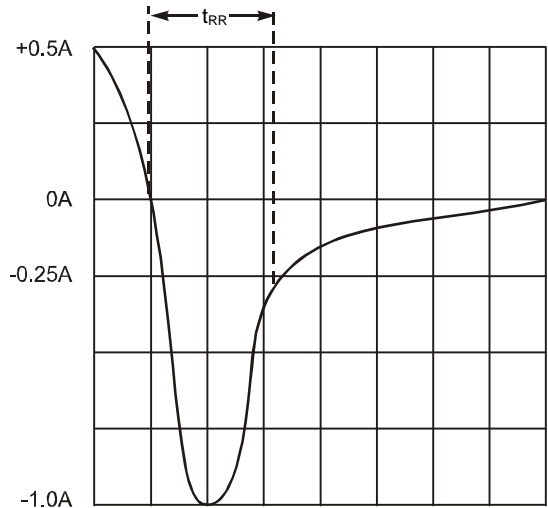


Fig. 4 Typical Reverse Characteristics



- Notes:
 9. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
 10. Rise Time = 10ns max. Input Impedance = 50Ω.

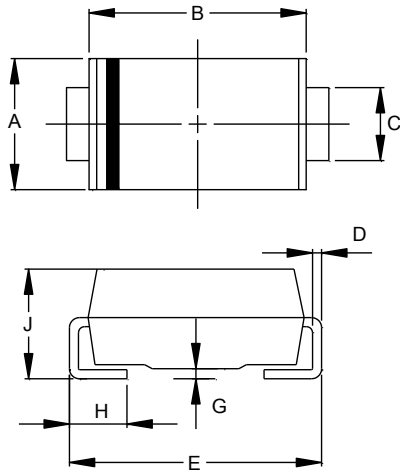


Set time base for 50/100 ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

Package Outline Dimensions

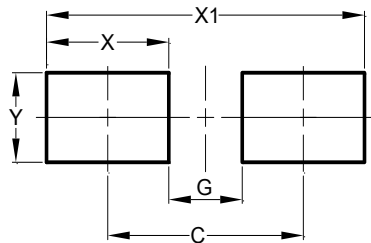
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



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	1.96	2.40
All Dimensions in mm		

Suggested Pad Layout

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



Dimensions	Value (in mm)
C	4.00
G	1.50
X	2.50
X1	6.50
Y	1.70

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