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	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_{RM}	1,000	V
RMS Reverse Voltage	$V_{R(RMS)}$	700	V
Average Rectified Output Current @ T_T = +75°C	I_O	1.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	25	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Case (Note 5)	$R_{\theta JC}$	13	°C/W
Thermal Resistance Junction to Ambient (Note 5)	$R_{\theta JA}$	82	°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	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	1,000	—	—	V	I_R = 5μA
Forward Voltage Drop	V_F	—	1.1 0.95	1.3 —	V	I_F = 1A, T_J = +25°C I_F = 1A, T_J = +125°C
Leakage Current (Note 6)	I_R	—	0.2 5	10 200	μA	V_R = 1,000V, T_J = +25°C V_R = 1,000V, T_J = +125°C
Reverse Recovery Time	t_{rr}	—	240	500	ns	I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A
Total Capacitance	C_T	—	3	—	pF	V_R = 4.0V_{DC}, f = 1MHz

Notes: 5. Device mounted on FR4 PCB with 1x recommended pad layout, 1-inch 2oz, please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for the latest version.
6. Short duration pulse test used to minimize self-heating effect.

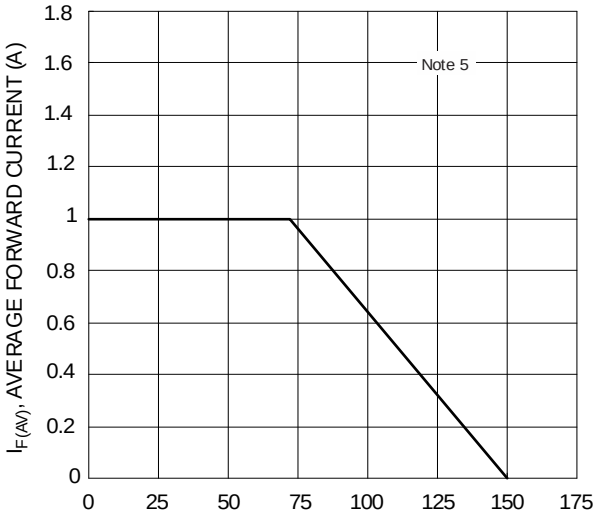


Figure 1 Forward Current Derating Curve

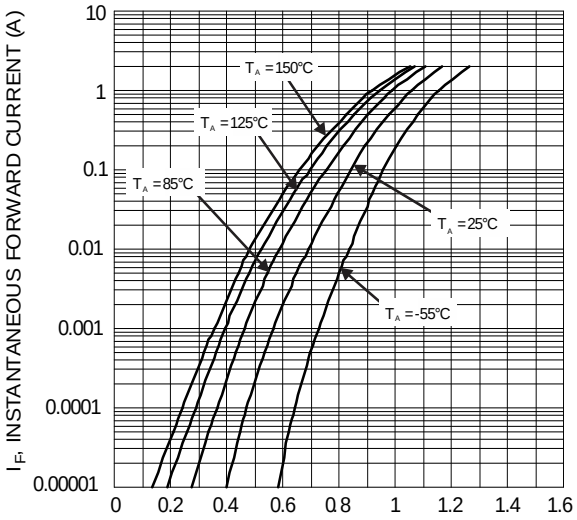


Figure 2 Typical Forward Characteristics

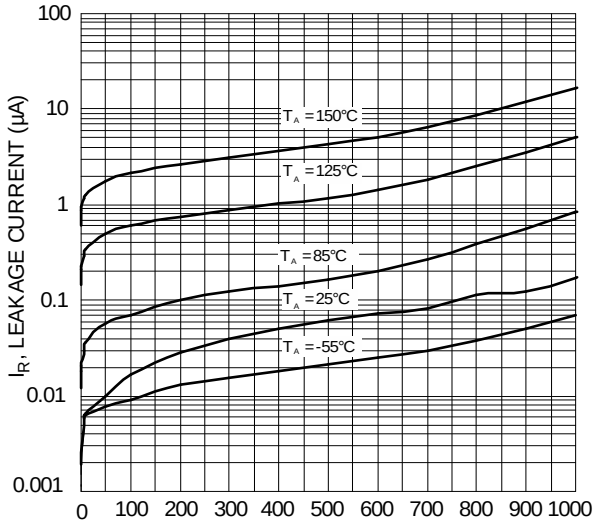


Figure 3 Typical Reverse Characteristics

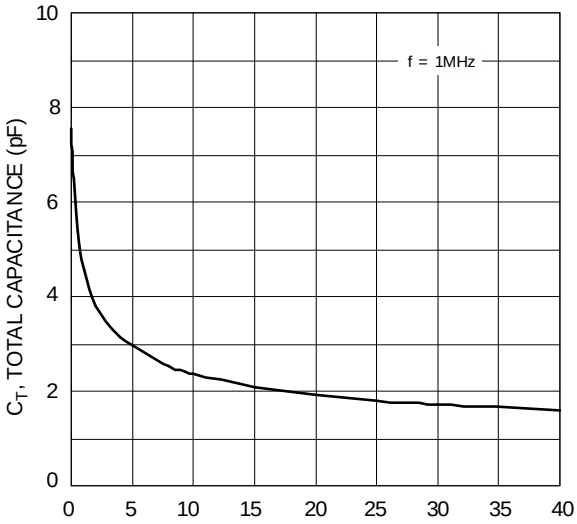
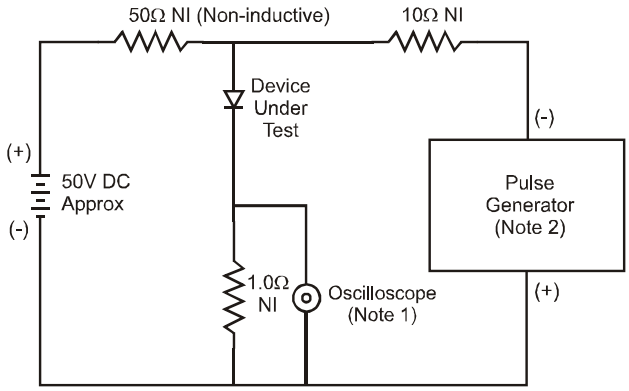
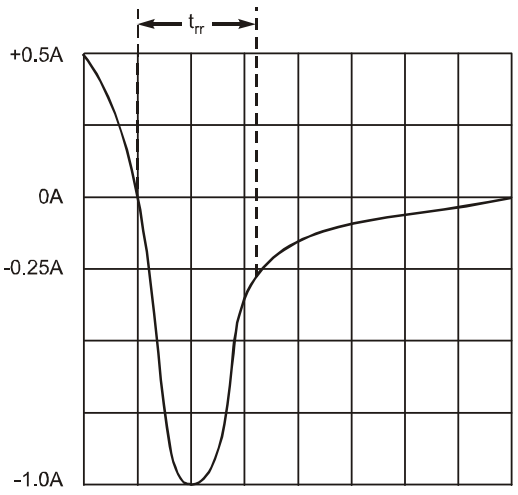


Figure 4 Total Capacitance



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



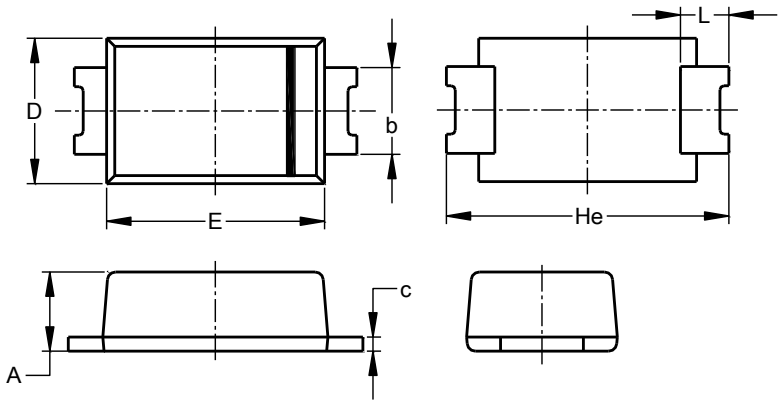
Set time base for 50/100 ns/cm

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.

SOD123F (Type B)

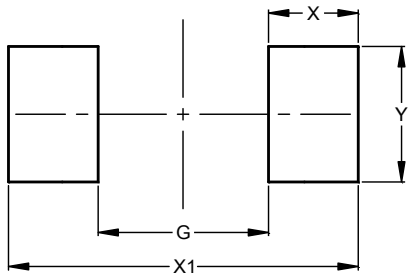


SOD123F (Type B)			
Dim	**Min**	**Max**	**Typ**
A	0.81	1.15	—
b	0.80	1.35	—
c	0.05	0.30	—
D	1.70	1.90	1.80
E	2.60	2.80	2.70
He	3.30	3.70	3.50
L	0.35	0.85	—
All Dimensions in mm			

Suggested Pad Layout

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

SOD123F (Type B)



Dimensions	Value (in mm)
G	1.90
X	1.00
X1	3.90
Y	1.50

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