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_R	100	V
RMS Reverse Voltage	$V_{R(RMS)}$	71	V
Forward Current rms (T_C = +160°C, D = 0.5)	$I_{F(RMS)}$	2	A
Average Forward Current	$I_{F(AV)}$	1.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	50	A
Repetitive Peak Reverse Current t_P = 2µs, f = 1kHz Square	I_{RRM}	1.0	A
Repetitive Peak Avalanche Power t_P = 1µs, T_J = +25°C	P_{ARM}	1500	W
Non-repetitive Peak Reverse Current t_P = 100µs Square	I_{RSM}	1.0	A
Critical Rate of Rise of Reverse Voltage (Rated V_R, T_J = +25°C)	dV/dt	10000	V/µs

Thermal Characteristics

Characteristic	Symbol	Typ	Max	Unit
Thermal Resistance Junction to Soldering (Note 5)	$R_{\theta JS}$	—	7	°C/W
Thermal Resistance Junction to Ambient (Note 6) T_A = +25°C	$R_{\theta JA}$	125	—	
Thermal Resistance Junction to Case (Note 6) T_A = +25°C	$R_{\theta JC}$	21	—	
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +175		°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 7)	$V_{(BR)R}$	100	—	—	V	I_R = 1mA
Forward Voltage	V_F	—	—	0.77	V	I_F = 1.0A, T_A = +25°C
		—	0.58	0.62		I_F = 1.0A, T_A = +125°C
		—	—	0.86		I_F = 2.0A, T_A = +25°C
		—	0.65	0.7		I_F = 2.0A, T_A = +125°C
Leakage Current (Note 7)	I_R	—	—	0.10	µA	V_R = 50V, T_A = +25°C
		—	—	3	µA	V_R = 50V, T_A = +65°C
		—	—	15	µA	V_R = 50V, T_A = +85°C
		—	—	0.35	µA	V_R = 100V, T_A = +25°C
		—	—	0.35	mA	V_R = 100V, T_A = +125°C
Total Capacitance	C_T	—	36	—	pF	V_R = 5V_{DC}, f = 1MHz

Notes:
5. Theoretical $R_{\theta JS}$ calculated from the top center of the die straight down to the PCB/cathode tab solder junction.
6. Part mounted on FR-4 board with 2oz., minimum recommended copper pad layout, which can be found on our website at http://www.diodes.com.
7. Short duration pulse test used to minimize self-heating effect.
8. The heat generated must be less than thermal conductivity from junction-to-ambient: dPD/DTJ < 1/RthJA

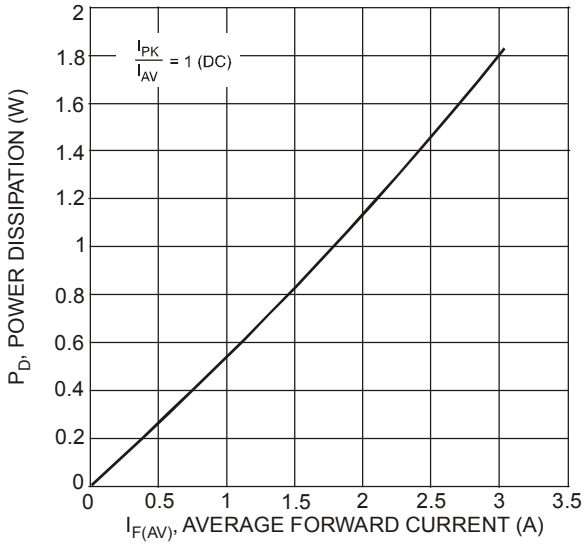


Fig. 1 Forward Power Dissipation

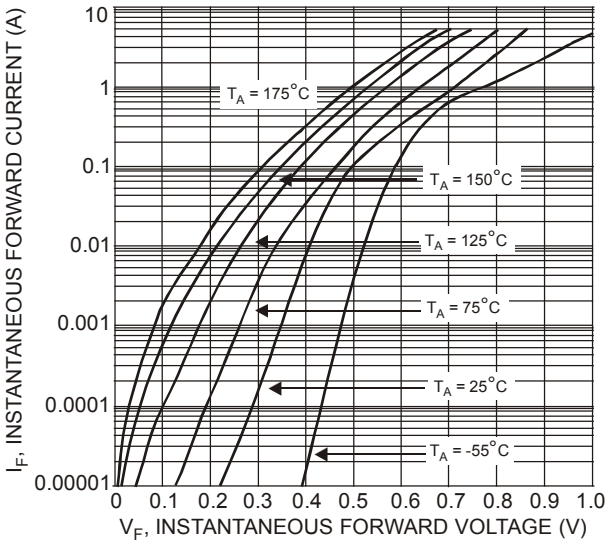


Fig. 2 Typical Forward Characteristics

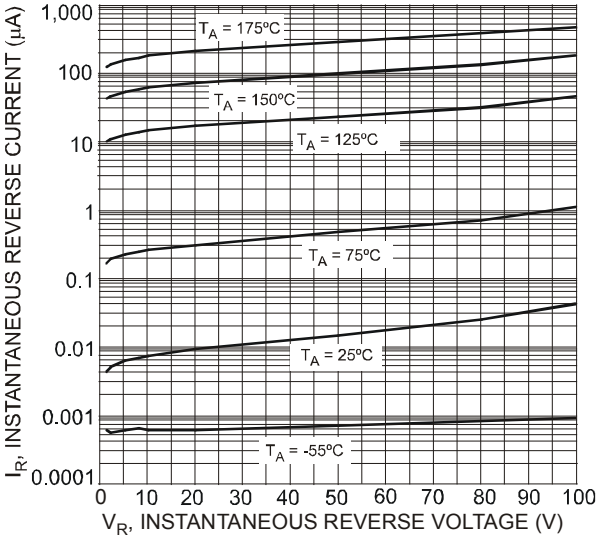


Fig. 3 Typical Reverse Characteristics

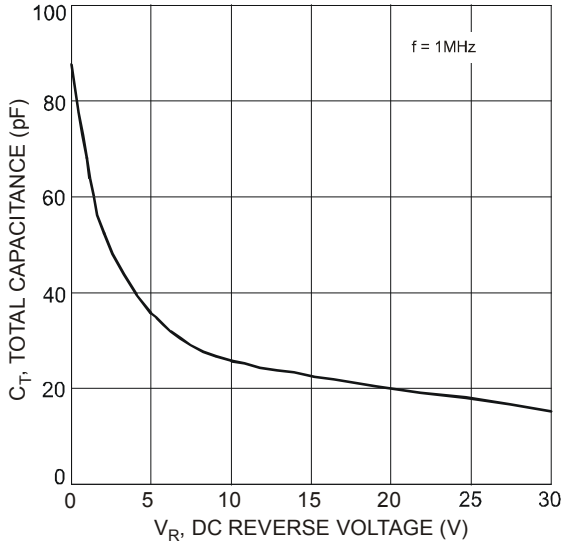


Fig. 4 Total Capacitance vs. Reverse Voltage

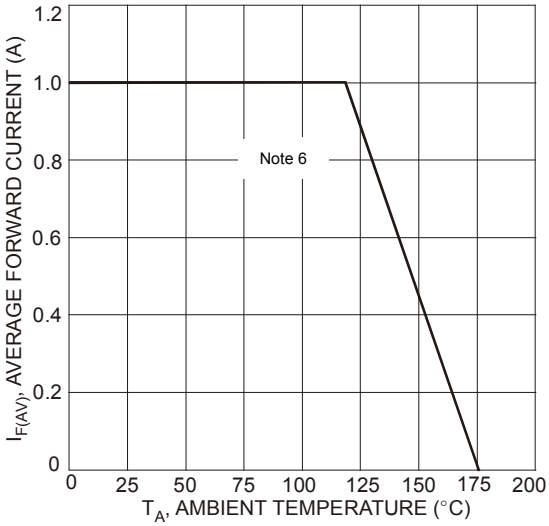


Fig. 5 Forward Current Derating Curve

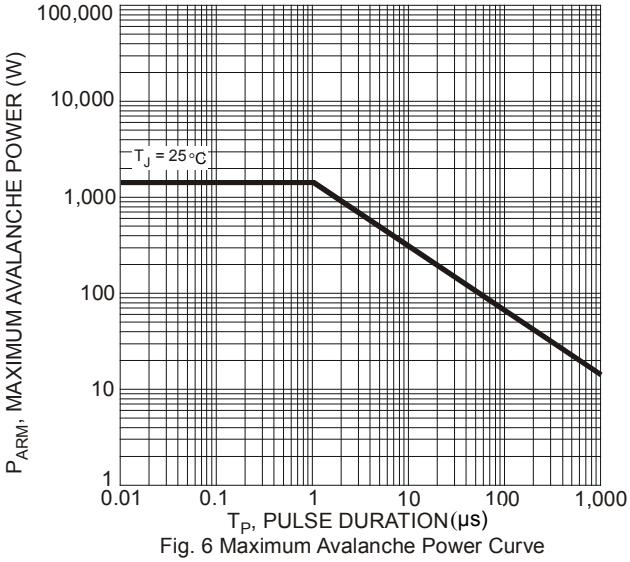


Fig. 6 Maximum Avalanche Power Curve

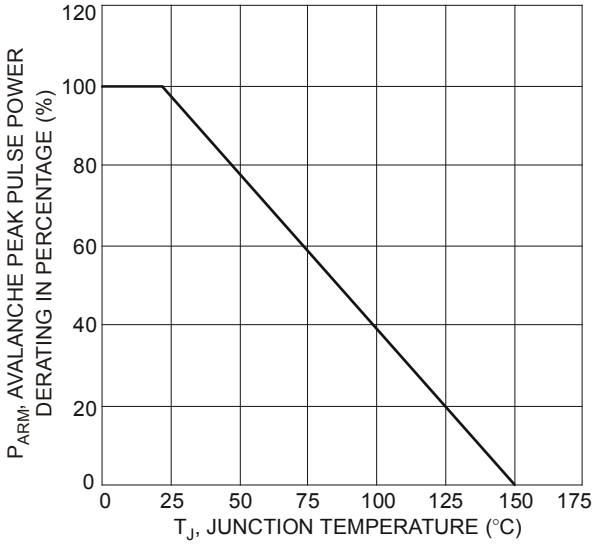


Fig. 7 Pulse Derating Curve

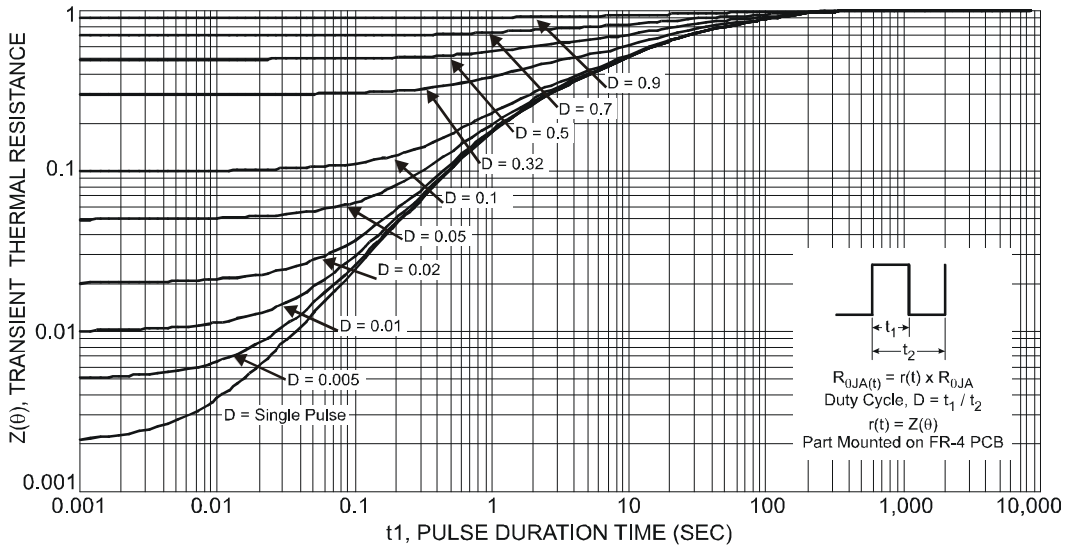
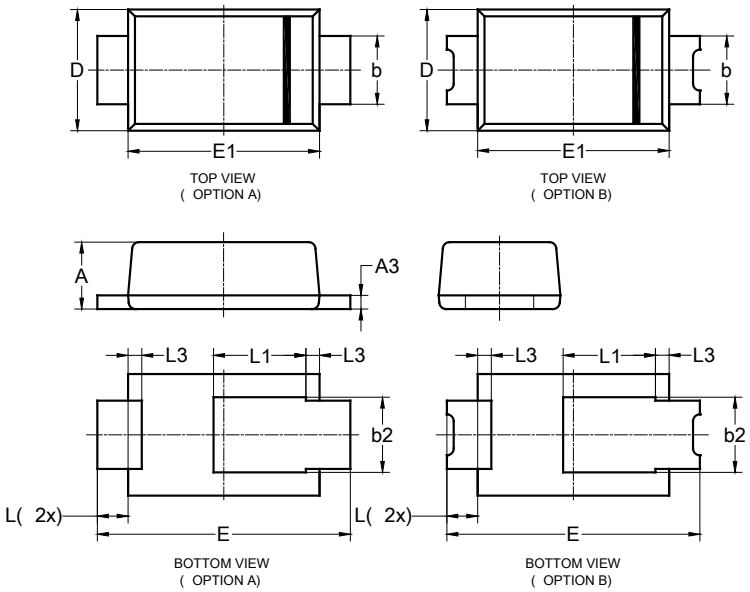


Fig. 8 Transient Thermal Resistance

Package Outline Dimensions

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

PowerDI123

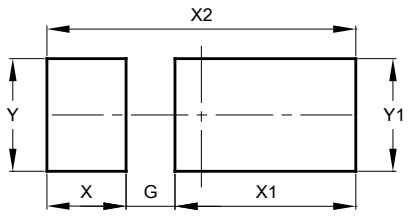


PowerDI123			
Dim	**Min**	**Max**	**Typ**
A	0.93	1.00	0.98
A3	0.15	0.25	0.20
b	0.85	1.25	1.00
b2	1.025	1.125	1.10
D	1.63	1.93	1.78
E	3.50	3.90	3.70
E1	2.60	3.00	2.80
L	0.40	0.50	0.45
L1	1.25	1.40	1.35
L3	0.125	0.275	0.20
All Dimensions in mm			

Suggested Pad Layout

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

PowerDI123



Dimensions	Value (in mm)
G	0.65
X	1.05
X1	2.40
X2	4.10
Y	1.50
Y1	1.50

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