

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

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

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	100	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _R		
RMS Reverse Voltage	V _{R(RMS)}	71	V
Average Rectified Output Current	I _O	2.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	50	A
Electrostatic Discharge	HBM	6000	V
Electrostatic Discharge	CDM	1000	V

Thermal Characteristics

Characteristic	Symbol	Typ	Max	Unit
Thermal Resistance Junction to Soldering (Note 6)	R _{θJS}	—	7	°C/W
Thermal Resistance Junction to Ambient (Note 7) (T _A = +25°C)	R _{θJA}	125	—	°C/W
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 8)	V _{(BR)R}	100	—	—	V	I _R = 1μA
Forward Voltage	V _F	—	—	0.77 0.86	V	I _F = 1.0A I _F = 2.0A
Leakage Current (Note 8)	I _R	—	—	1	μA	V _R = 100V
Total Capacitance	C _T	—	36	—	pF	V _R = 5VDC, f = 1MHz
Switching Speed	t _{RR}	—	9	—	ns	I _F = 0.5A, I _R = 1.0A, I _{RR} = 0.25A (RG1)

- Notes:
6. Theoretical R_{θJS} calculated from the top center of the die straight down to the PCB/cathode tab solder junction.
 7. Part mounted on FR-4 board with 2 oz. minimum recommended copper pad layout, which can be found on our website at <http://www.diodes.com/package-outlines.html>.
 8. Short duration pulse test used to minimize self-heating effect.

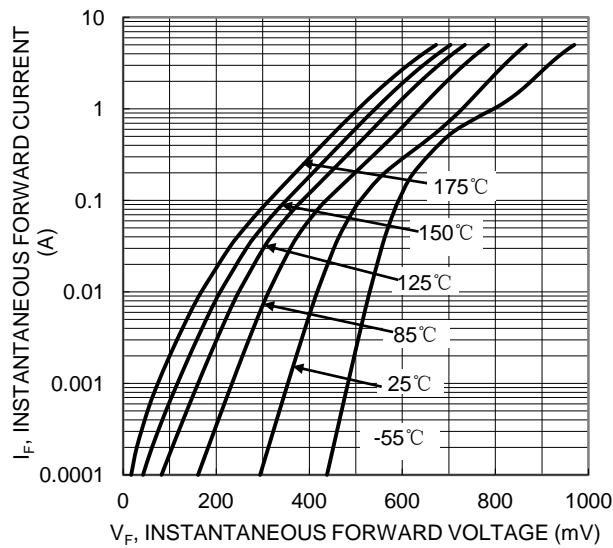


Fig. 1 Typical Forward Characteristics

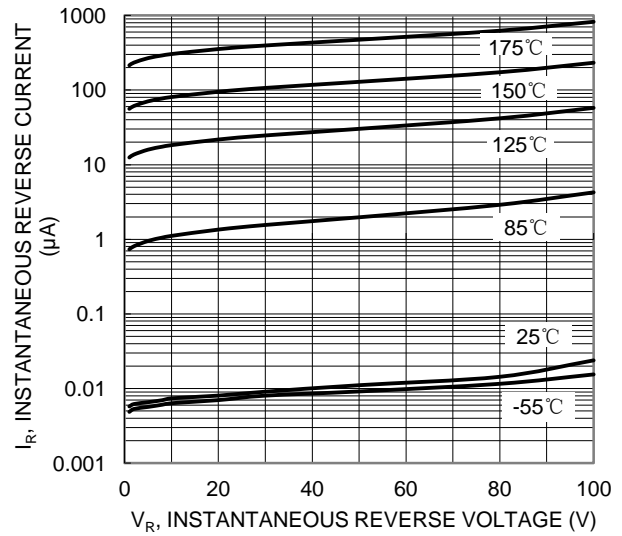


Fig. 2 Typical Reverse Characteristics

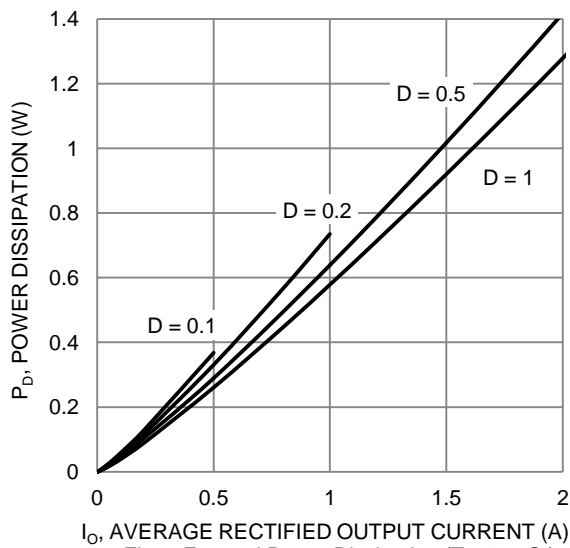


Fig. 3 Forward Power Dissipation ($T_J=125^{\circ}\text{C}$)

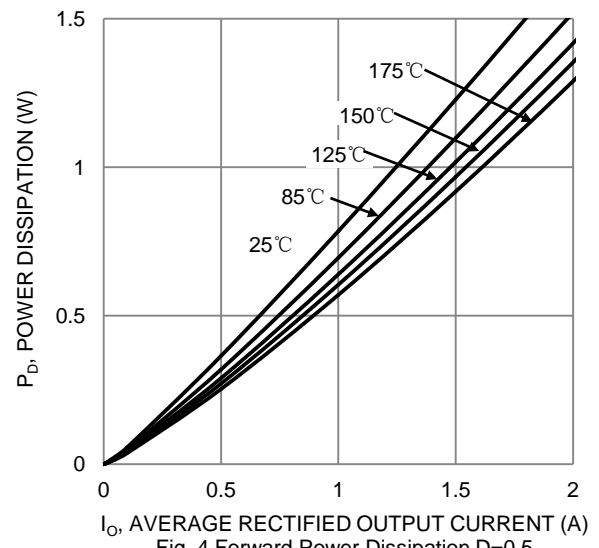


Fig. 4 Forward Power Dissipation $D=0.5$

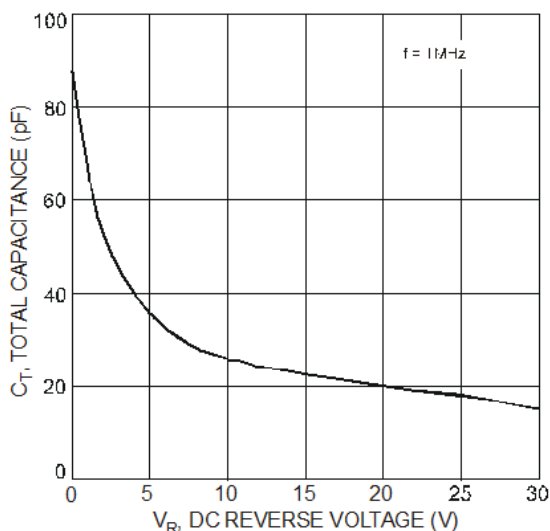


Fig. 5 Total Capacitance vs. Reverse Voltage

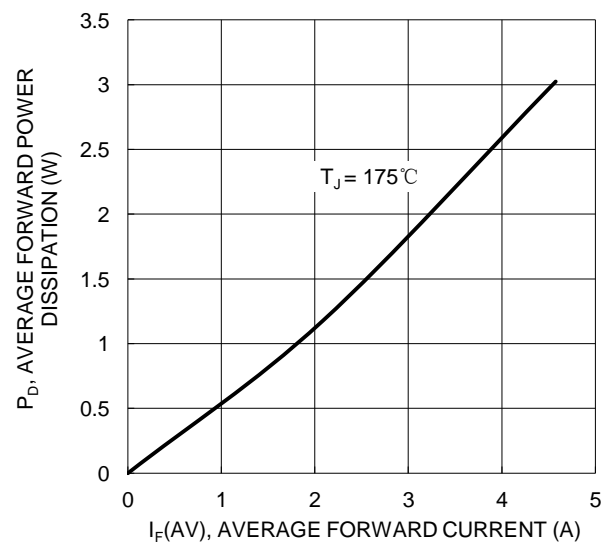
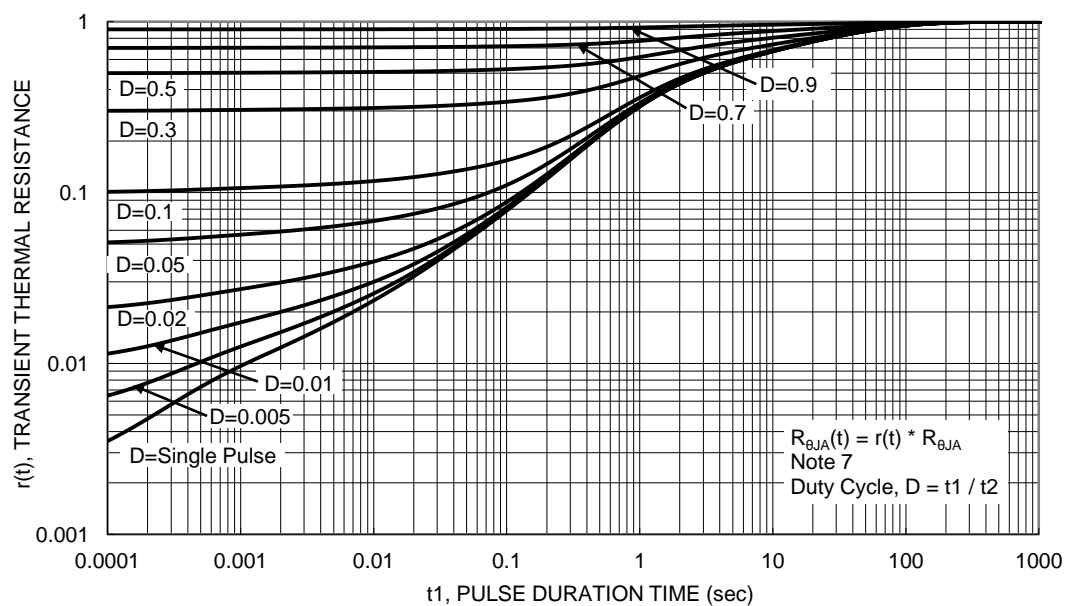
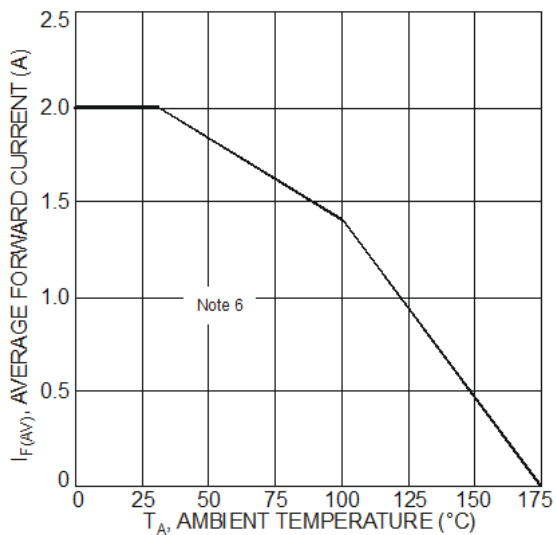


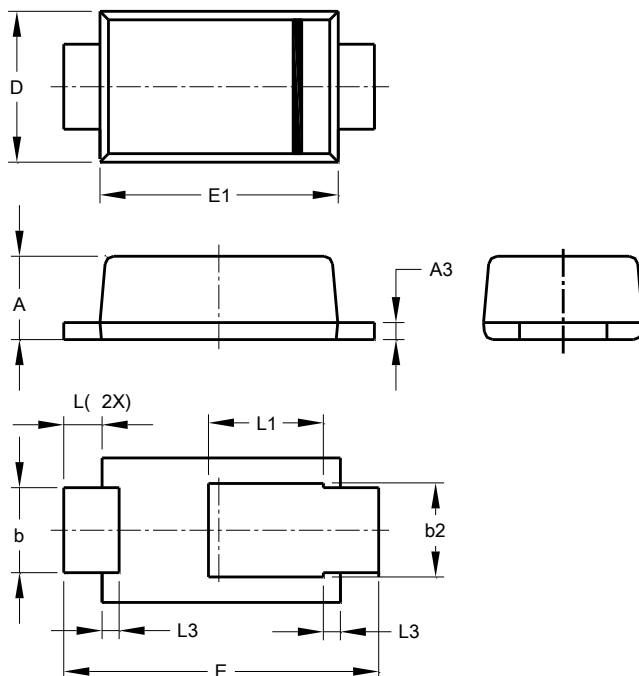
Fig. 6 Forward Power Dissipation



Package Outline Dimensions

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

PowerDI123

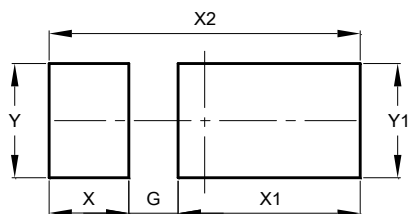


PowerDI123			
Dim	Min	Max	Typ
A	0.93	1.00	0.98
A3	0.15	0.25	0.20
b	0.85	1.25	1.00
b2	1.025	1.125	1.10
D	1.63	1.93	1.78
E	3.50	3.90	3.70
E1	2.60	3.00	2.80
L	0.40	0.50	0.45
L1	1.25	1.40	1.35
L3	0.125	0.275	0.20
All Dimensions in mm			

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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