

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}	45	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _{RM}		
RMS Reverse Voltage	V _{R(RMS)}	32	V
Average Rectified Output Current	I _O	10	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	275	A
Repetitive Peak Avalanche Power (1μs, +25°C)	P _{ARM}	30,000	W

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Thermal Resistance Junction to Ambient (Note 5)	R _{θJA}	73	°C/W
Thermal Resistance Junction to Ambient (Note 6)	R _{θJA}	31	
Operating Temperature Range	V _R ≤ 80% V _{RRM}	-65 to +150	°C
	V _R ≤ 50% V _{RRM}	≤180	
	DC Forward Mode (Note 7)	≤200	
Storage Temperature Range	T _{STG}	-65 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}	45	—	—	V	I _R = 0.3mA
Forward Voltage Drop	V _F	—	—	0.42	V	I _F = 8A, T _J = +25°C
		—	0.42	0.47		I _F = 10A, T _J = +25°C
		—	0.38	0.41		I _F = 10A, T _J = +125°C
Leakage Current (Note 8)	I _R	—	0.05	0.3	mA	V _R = 45V, T _J = +25°C
		—	—	15		V _R = 45V, T _J = +100°C
		—	28.0	75		V _R = 45V, T _J = +150°C

- Notes:
- FR-4 PCB, 2oz. copper. Minimum recommended pad layout per <http://www.diodes.com/package-outlines.html>.
 - Polymide PCB, 2oz. copper. Cathode pad dimensions 18.8mm x 14.4mm. Anode pad dimensions 5.6mm x 14.4mm.
 - Max junction temperature guaranteed for 2 hours.
 - Short duration pulse test used to minimize self-heating effect.

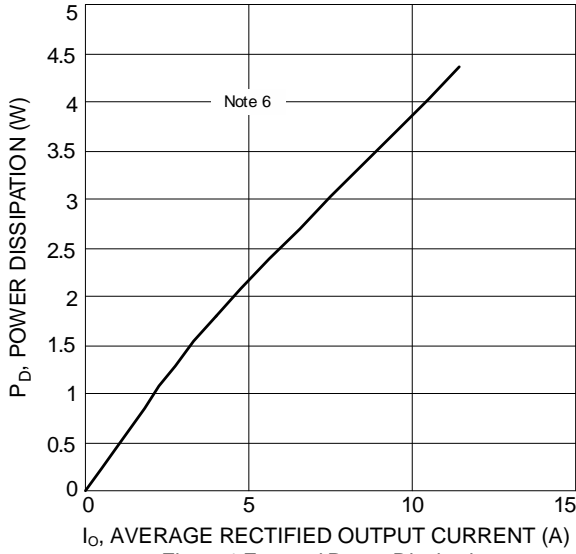


Figure 1 Forward Power Dissipation

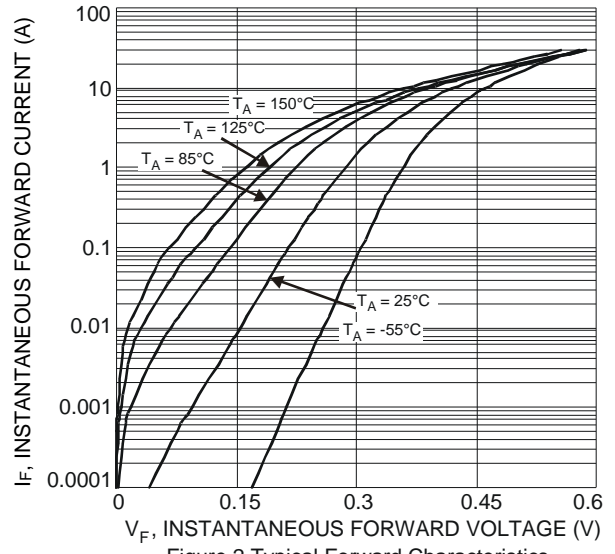


Figure 2 Typical Forward Characteristics

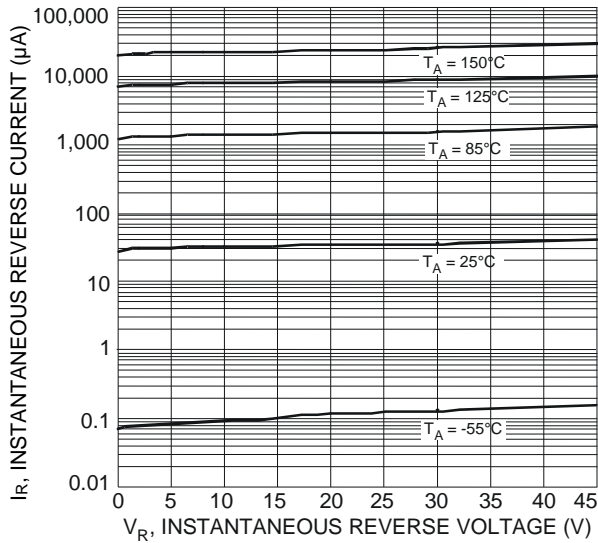


Figure 3 Typical Reverse Characteristics

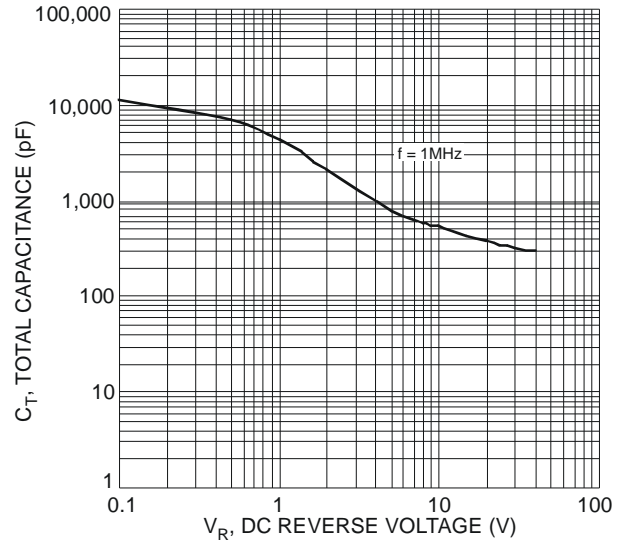


Figure 4 Total Capacitance vs. Reverse Voltage

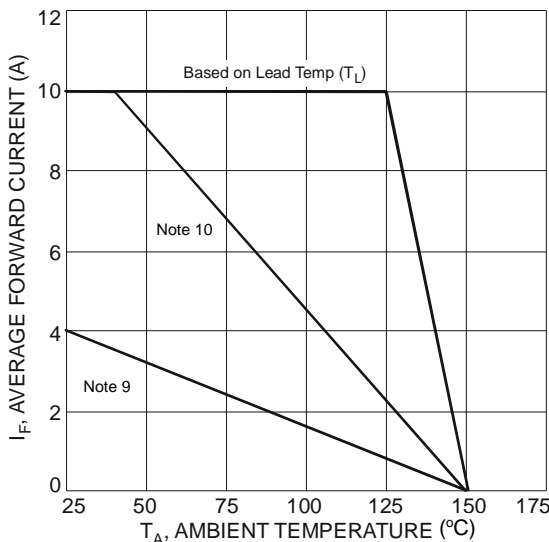


Figure 5 Forward Current Derating Curve

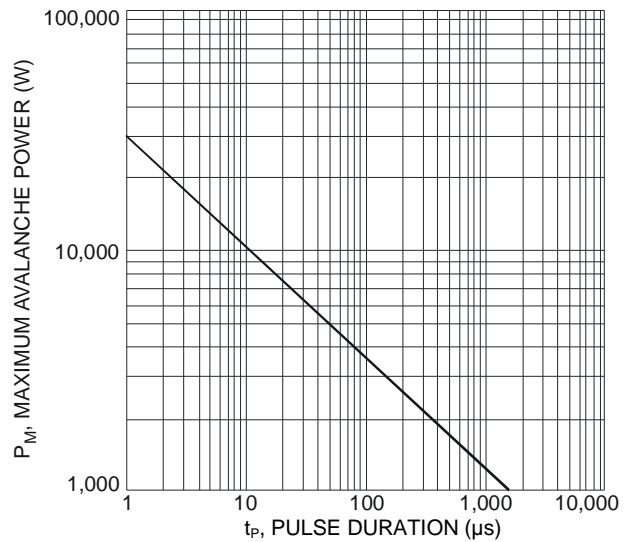


Figure 6 Maximum Avalanche Power

Notes: 9. Device mounted on FR-4 substrate, 2oz copper, with minimum recommended pad layout.
10. Device mounted on FR-4 substrate, 2oz copper, with 10cm x 10cm pad layout.

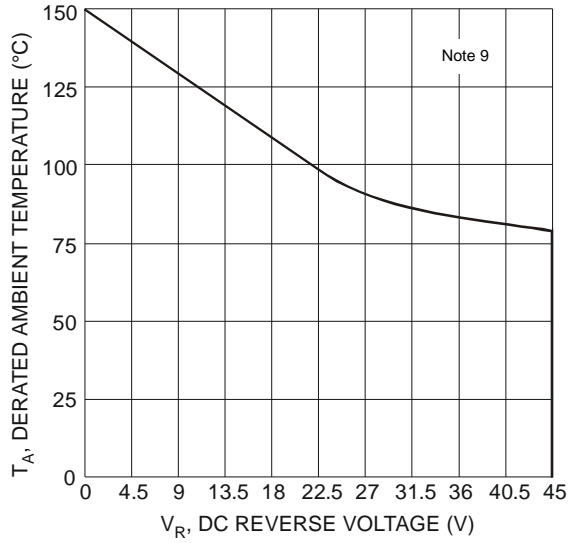
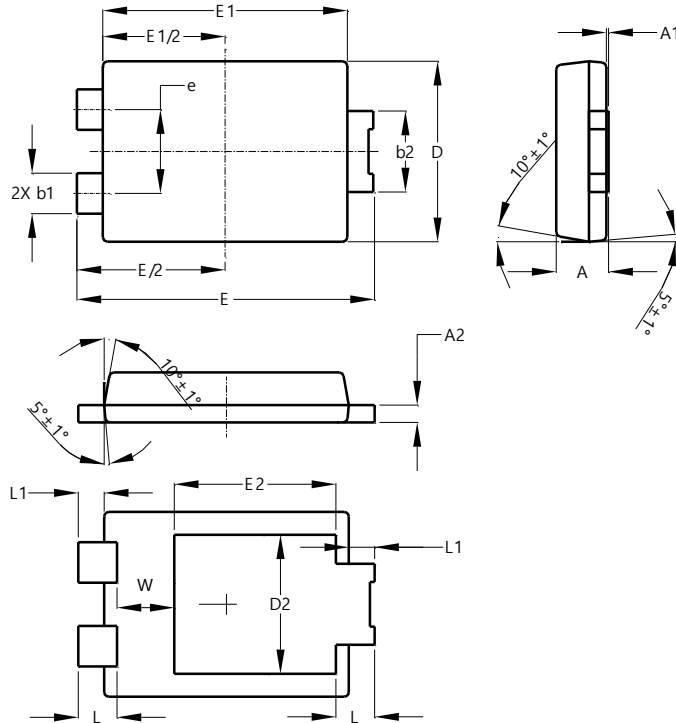


Figure 7 Operating Temperature Derating

Package Outline Dimensions

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

PowerDI5

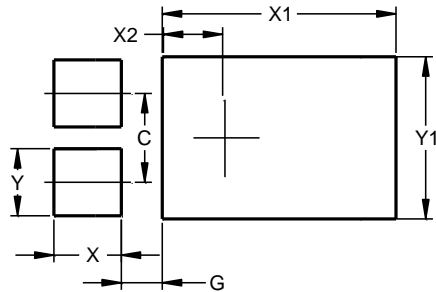


PowerDI5			
Dim	Min	Max	Typ
A	1.05	1.15	1.10
A1	0.00	0.05	--
A2	0.33	0.43	0.381
b1	0.80	0.99	0.89
b2	1.70	1.88	1.78
D	3.90	4.05	3.966
D2	--	--	3.054
E	6.40	6.60	6.51
e	--	--	1.84
E1	5.30	5.45	5.37
E2	--	--	3.549
L	0.75	0.95	0.85
L1	0.50	0.65	0.57
W	1.10	1.41	1.255
All Dimensions in mm			

Suggested Pad Layout

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

PowerDI5



Dimensions	Value (in mm)
C	1.840
G	0.852
X	1.400
X1	4.860
X2	1.310
Y	1.390
Y1	3.360

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