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}	600	V
Average Rectified Output Current	I_O	6	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	55	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance Thermal Resistance Junction to Ambient (Note 4) Thermal Resistance Junction to Ambient (Note 5)	 $R_{\theta JA}$ $R_{\theta JA}$	 104 30	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +175	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V_F	-	2.1	2.6	V	I_F = 6A, T_J = 25°C
Leakage Current (Note 3)	I_R	-	-	50	µA	V_R = 600V, T_J = 25°C
Reverse Recovery Time	t_{rr}	-	21	25	ns	I_F = 0.5A, I_R = 1A, I_{RR} = 0.25A
		-	33	45		I_F = 1A, V_R = 30V, di/dt = 50A/µs
Softness Factor	S	-	0.7	-	-	I_F = 6A, dI/dt = 200A/µs, V_R = 400V, T_J = 125°C
Reverse Recovery Current	I_{RM}	-	4.3	-	A	
Reverse Recovery Charges	Q_{rr}	-	220	-	nC	
Junction Capacitance	C_J	-	30	-	pF	V_R = 4.0V, 1MHz

Notes: 3. Short duration pulse test used to minimize self-heating effect.
4. FR-4 PCB, 2oz. Copper, minimum recommended pad layout per http://www.diodes.com.
5. Polymide PCB, 2oz. Copper. Cathode pad dimensions 18.8mm x 14.4mm. Anode pad dimensions 5.6mm x 14.4mm.

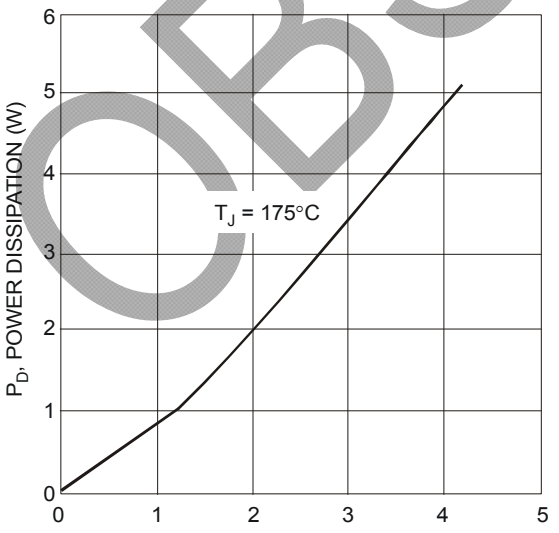

Fig. 1 Forward Power Dissipation

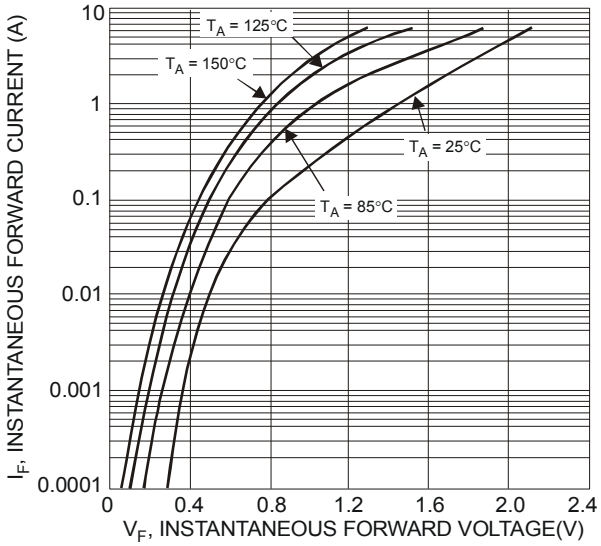

Fig. 2 Typical Forward Characteristics

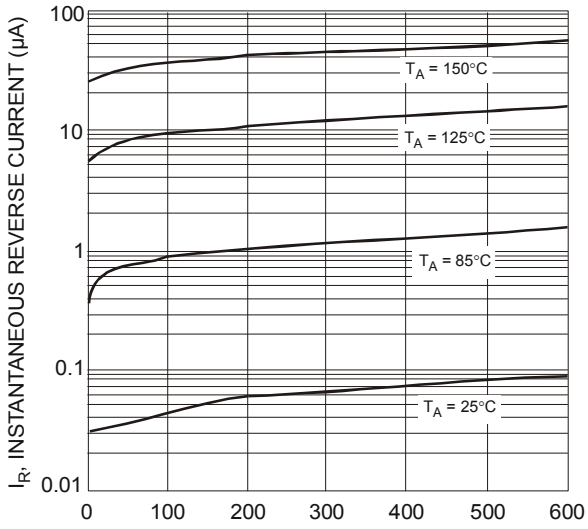

Fig. 3 Typical Reverse Characteristics

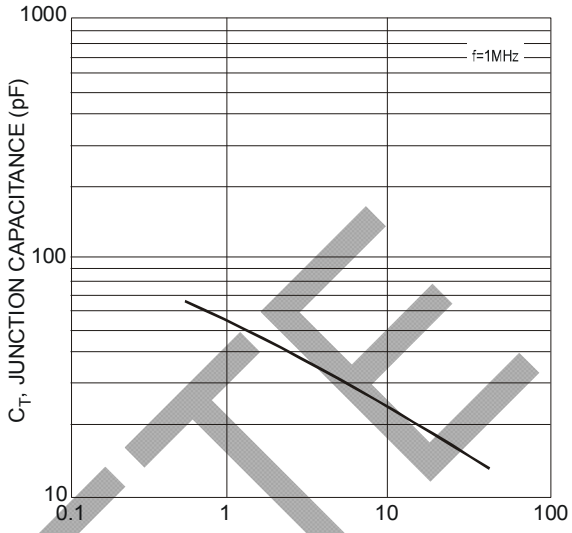

Fig. 4 Total Capacitance vs. Reverse Voltage

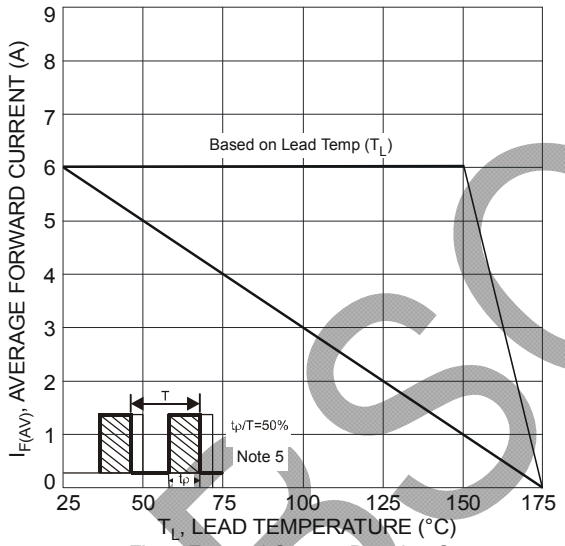

Fig. 5 Forward Current Derating Curve

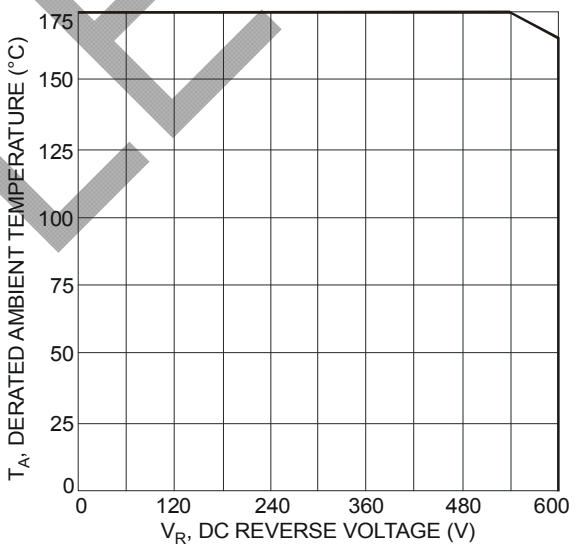

Fig. 6 Operating Temperature Derating

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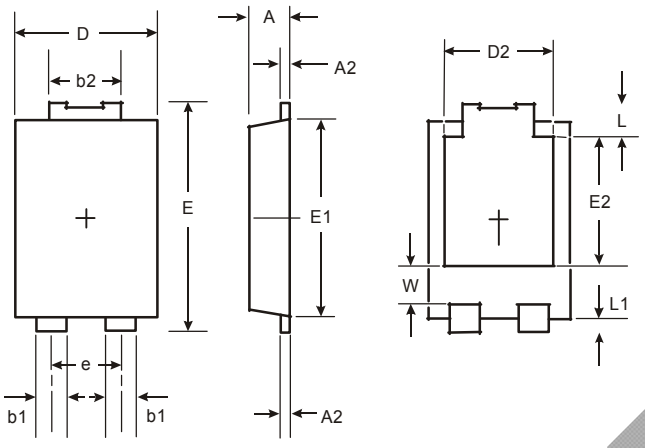
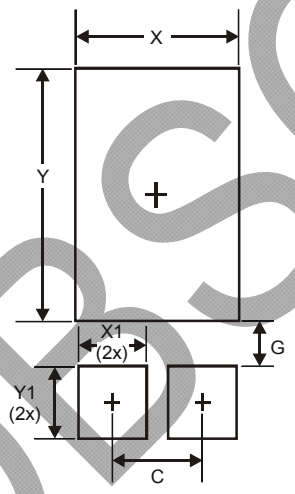
Package Outline Dimensions



POWERDI®5		
Dim	**Min**	**Max**
A	1.05	1.15
A2	0.33	0.43
b1	0.80	0.99
b2	1.70	1.88
D	3.90	4.05
D2	3.054 Typ	
E	6.40	6.60
e	1.84 Typ	
E1	5.30	5.45
E2	3.549 Typ	
L	0.75	0.95
L1	0.50	0.65
W	1.10	1.41
All Dimensions in mm		

Suggested Pad Layout



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

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2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

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