

**Maximum Ratings** @ $T_A = 25^\circ\text{C}$  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	$V_{RRM}$	20	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_{RM}$		
Average Rectified Output Current	$I_O$	8	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	180	A

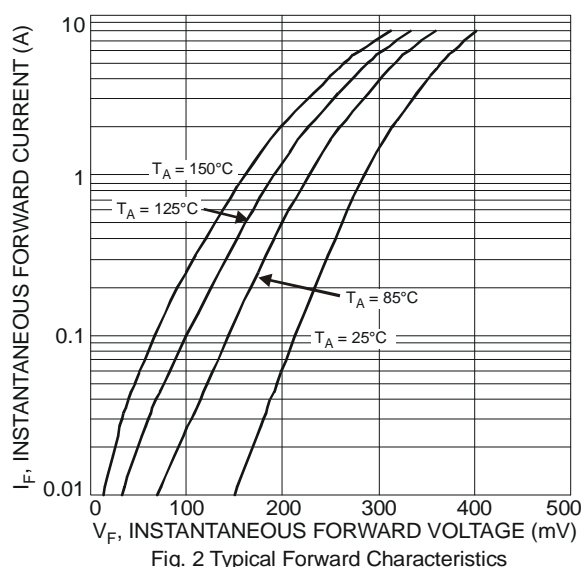
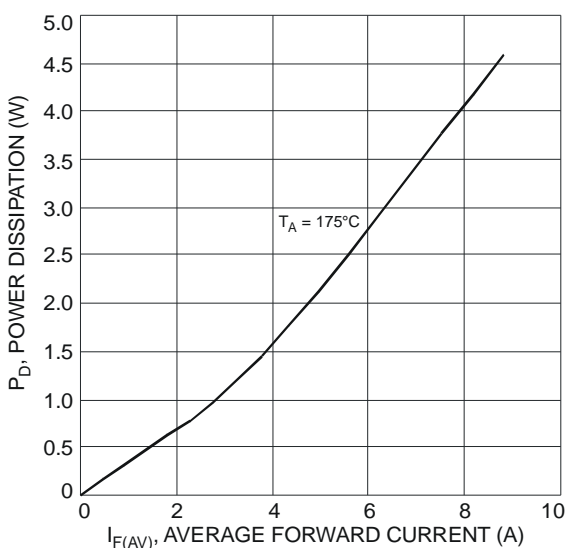
**Thermal Characteristics**

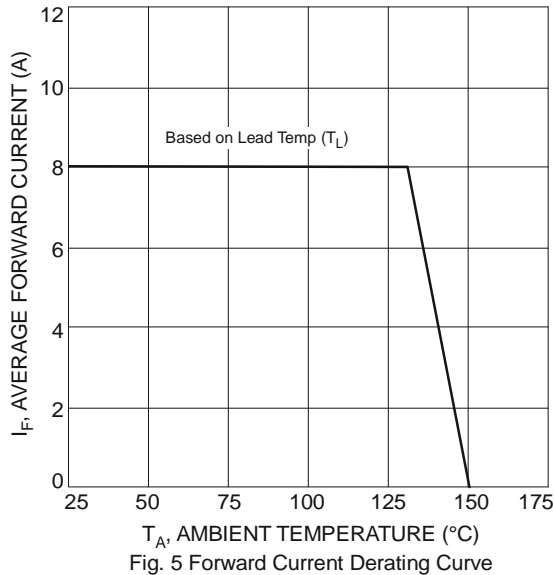
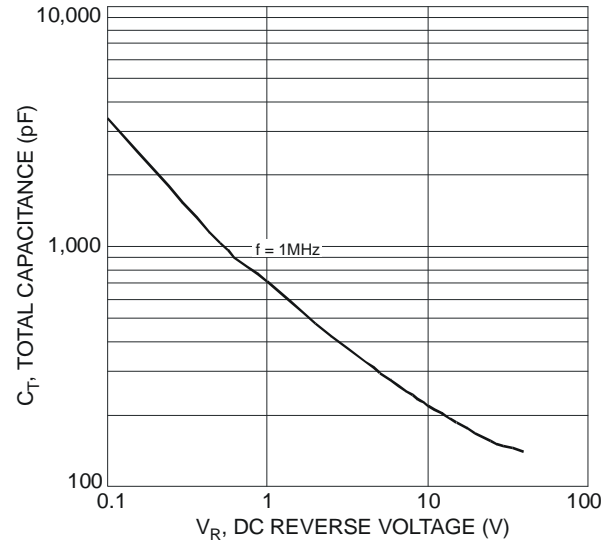
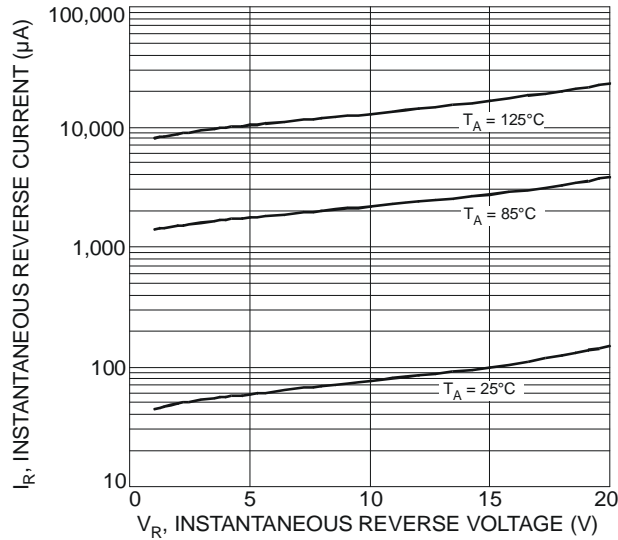
Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance	$R_{\theta JA}$	102	$^\circ\text{C/W}$
Thermal Resistance Junction to Ambient (Note 3)	$R_{\theta JA}$	60	
Thermal Resistance Junction to Ambient (Note 4)			
Operating Temperature Range	$V_R \leq 80\% V_{RRM}$	-65 to +150	$^\circ\text{C}$
	$V_R \leq 50\% V_{RRM}$	$\leq 180$	
	DC Forward Mode	$\leq 200$	
Storage Temperature Range	$T_{STG}$	-65 to +175	$^\circ\text{C}$

**Electrical Characteristics** @ $T_A = 25^\circ\text{C}$  unless otherwise specified

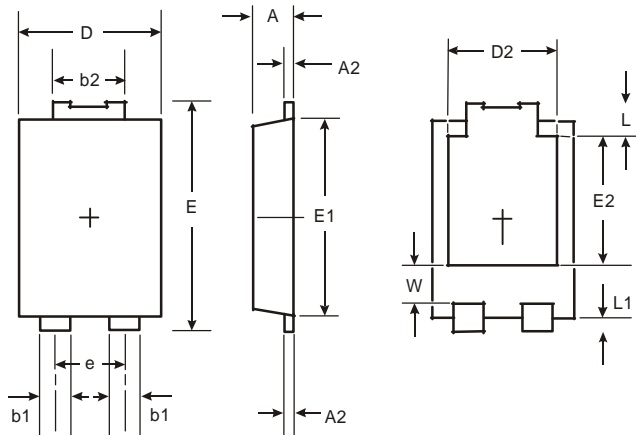
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	$V_F$	-	0.41 0.33	0.51 0.43	V	$I_F = 8\text{A}$ , $T_J = 25^\circ\text{C}$ $I_F = 8\text{A}$ , $T_J = 125^\circ\text{C}$
Leakage Current (Note 5)	$I_R$	-	0.08 0.2	0.2 0.5	mA	$V_R = 4\text{V}$ , $T_J = 25^\circ\text{C}$ $V_R = 20\text{V}$ , $T_J = 25^\circ\text{C}$

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





## Package Outline Dimensions



POWERDI <sup>®</sup> 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		

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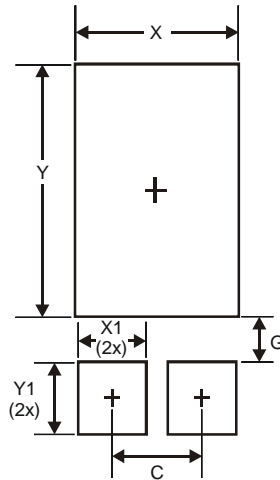
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## Suggested Pad Layout



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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