

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	V _R RM	40	V
Working Peak Reverse Voltage	V _R WM		
DC Blocking Voltage	V _R		
RMS Reverse Voltage	V _{R(RMS)}	28	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

Thermal Characteristics

Characteristic	Symbol	Typ	Max	Unit
Thermal Resistance Junction to Soldering Point	R _{θJS}	—	1.5	°C/W
Thermal Resistance Junction to Ambient Air (Note 5) T _A = +25°C	R _{θJA}	85	—	°C/W
Thermal Resistance Junction to Ambient Air (Note 6) T _A = +25°C	R _{θJA}	65	—	°C/W
Thermal Resistance Junction to Ambient Air (Note 7) T _A = +25°C	R _{θJA}	50	—	°C/W
Operating Junction Temperature Range V _R ≤ 80% V _R RM V _R ≤ 50% V _R RM	T _J	-65 to +130 -65 to +150		°C
Storage Temperature Range	T _{STG}	-65 to +150		°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}	40	—	—	V	I _R = 600μA
Forward Voltage	V _F	—	0.41	0.46	V	I _F = 6A, T _S = +25°C
		—	0.30	0.35		I _F = 6A, T _S = +125°C
		—	0.42	0.47		I _F = 8A, T _S = +25°C
		—	0.32	0.41		I _F = 8A, T _S = +125°C
		—	0.44	0.49		I _F = 10A, T _S = +25°C
Reverse Current (Note 8)	I _R	—	0.07	0.6	mA	T _S = +25°C, V _R = 40V
		—	12.5	25		T _S = +100°C, V _R = 40V

- Notes:
5. R-4 PCB, 2oz. Copper, minimum recommended pad layout per <http://www.diodes.com>.
 6. Polyimide PCB, 2oz. Copper, minimum recommended pad layout per <http://www.diodes.com>.
 7. Polyimide PCB, 2oz. Copper. Cathode pad dimensions 9.4mm x 7.2mm. Anode pad dimensions 2.7mm x 1.6mm.
 8. Short duration pulse test used to minimize self-heating effect.
 9. Polyimide PCB, 2oz. Copper. Cathode pad dimensions 18.8mm x 14.4mm. Anode pad dimensions 5.6mm x 3.0mm.
 10. Devices mounted such that R_{θJA} ≅ 19°C/W.

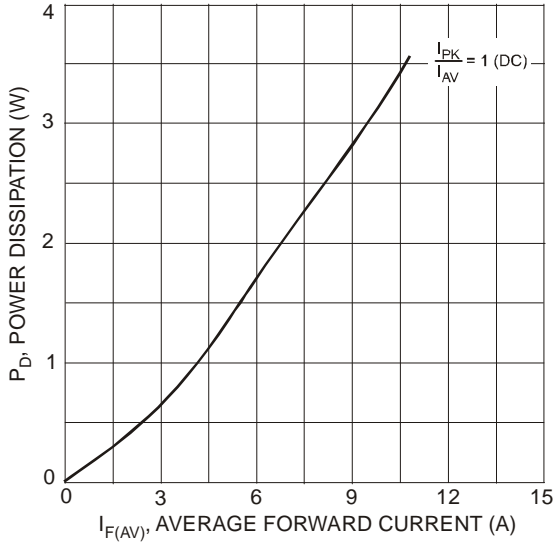


Fig. 1 Forward Power Dissipation

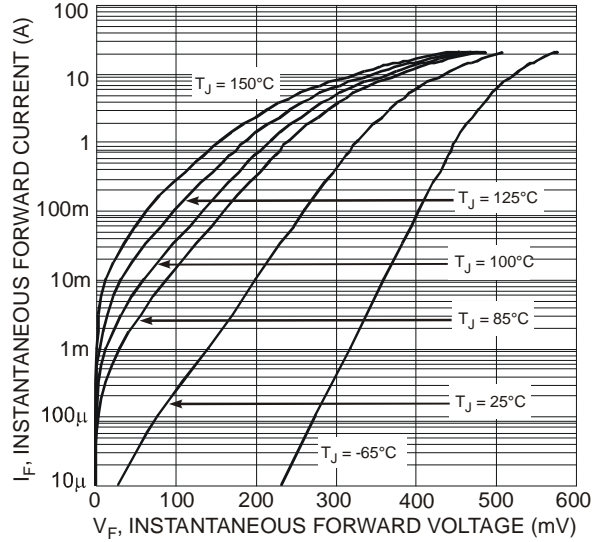


Fig. 2 Typical Forward Characteristics

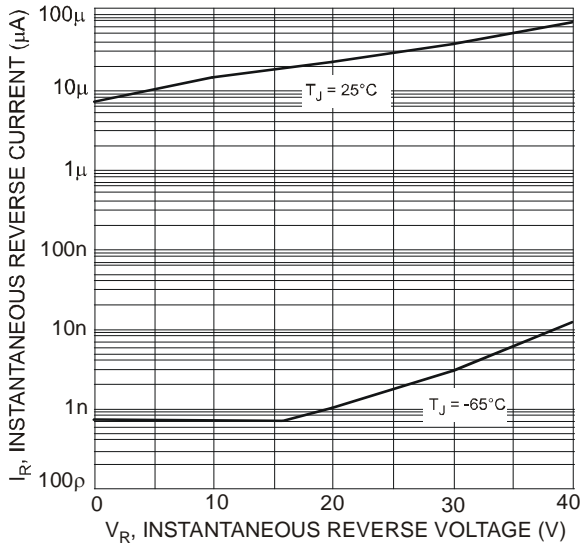


Fig. 3 Typical Reverse Characteristics

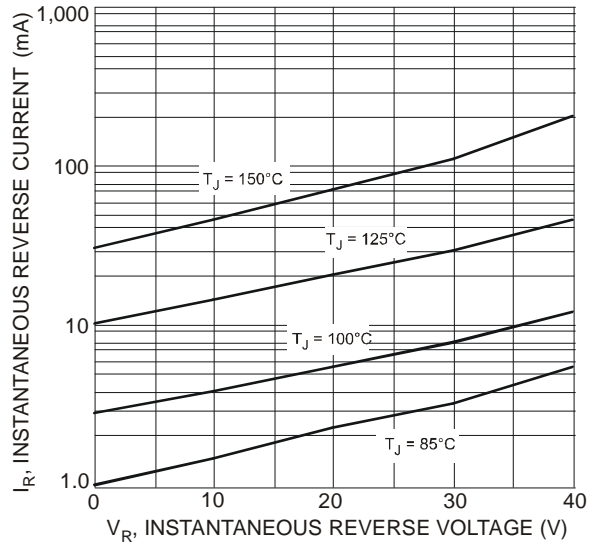


Fig. 4 Typical Reverse Characteristics

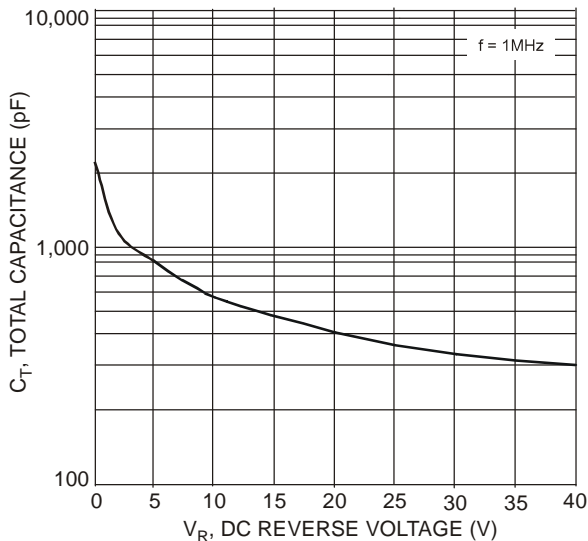


Fig. 5 Total Capacitance vs. Reverse Voltage

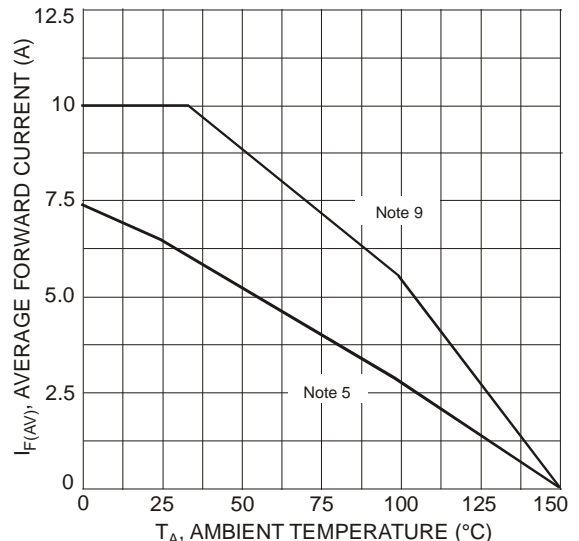


Fig. 6 Forward Current Derating Curve

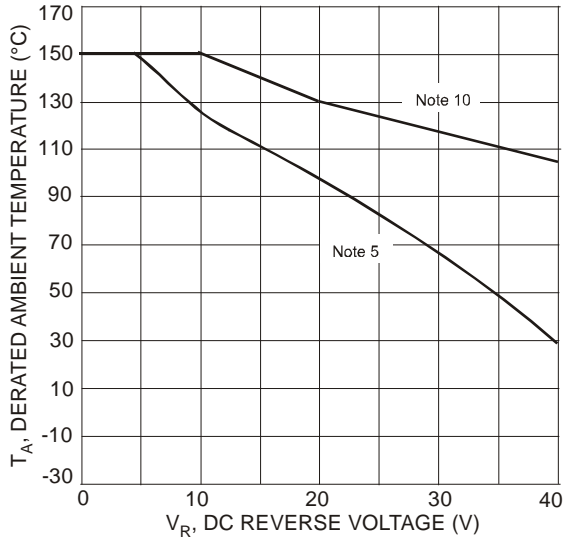
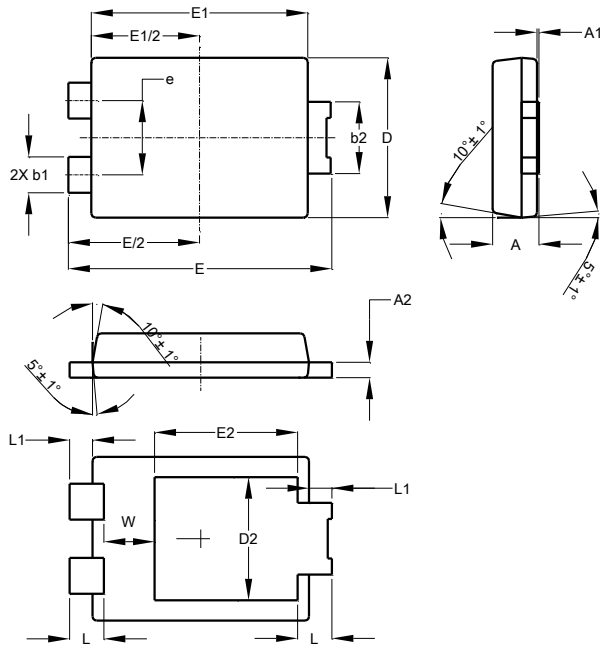


Fig. 7 Operating Temperature Derating

Package Outline Dimensions

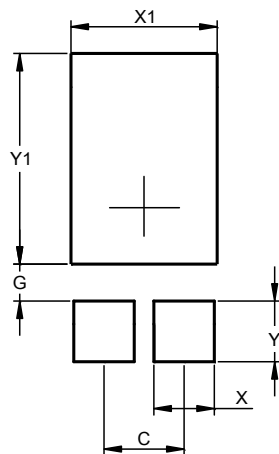
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



POWERDI [®] 5			
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	6.504
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 AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



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

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