

## Maximum Ratings (@T<sub>A</sub> = +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	$V_{RRM}$ $V_{RWM}$ $V_R$	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	28	V
Average Rectified Output Current per element total device	$I_O$	5 10	A
Non-Repetitive Peak Forward Surge Current, per element 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	110	A

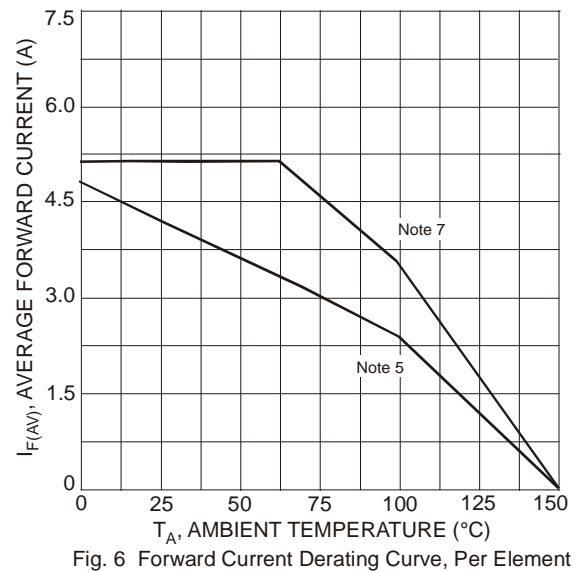
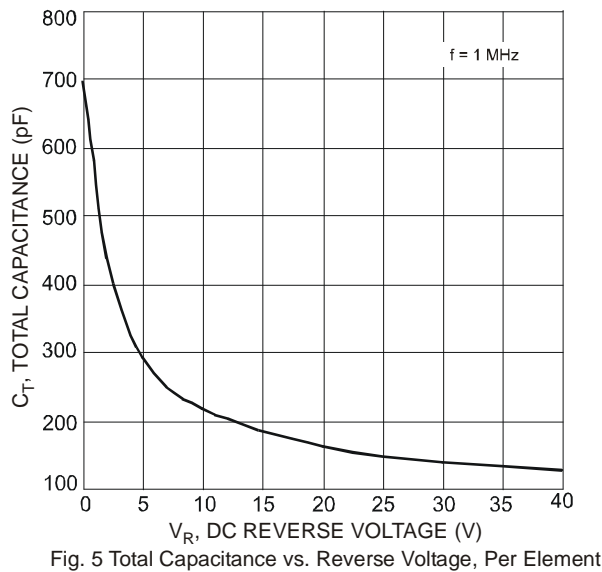
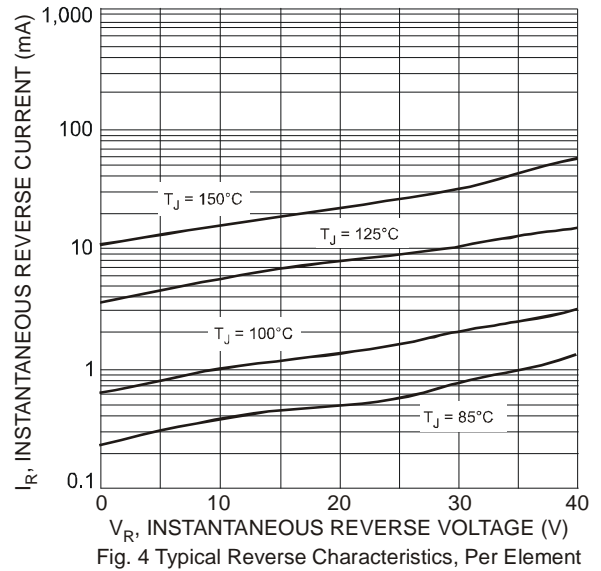
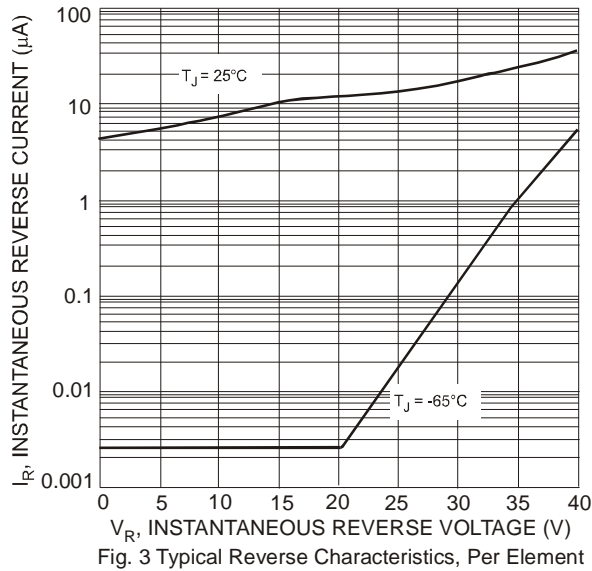
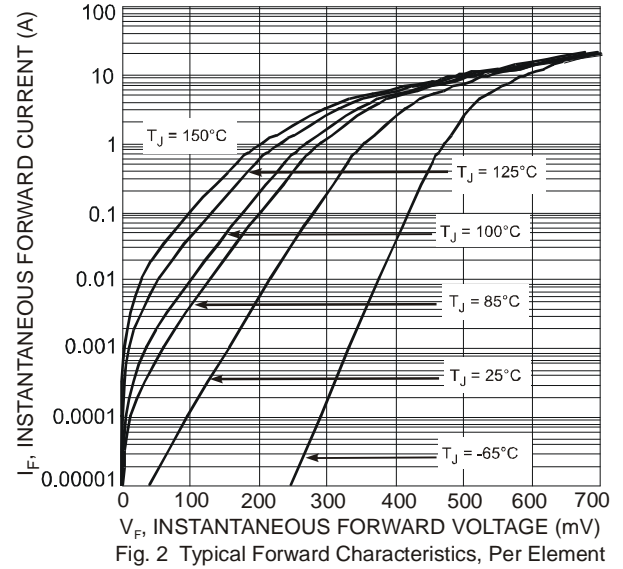
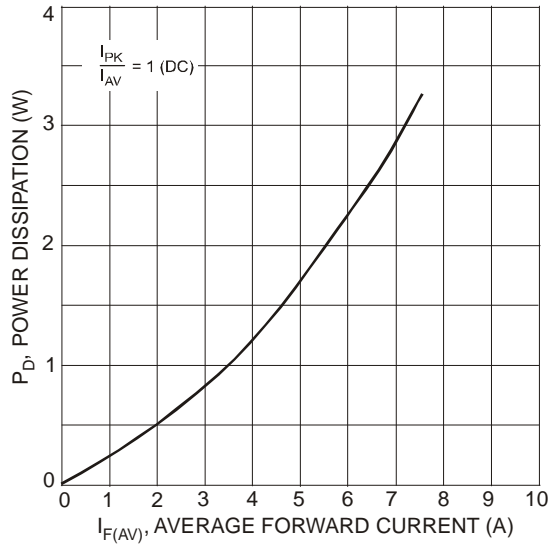
## Thermal Characteristics

Characteristic	Symbol	Typ	Max	Unit
Thermal Resistance Junction to Soldering Point	$R_{\theta JS}$	—	2.0	°C/W
Thermal Resistance Junction to Ambient Air (Note 5)	$R_{\theta JA}$	95	—	°C/W
Thermal Resistance Junction to Ambient Air (Note 6)	$R_{\theta JA}$	75	—	°C/W
Thermal Resistance Junction to Ambient Air (Note 7)	$R_{\theta JA}$	50	—	°C/W
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +150		°C

## Electrical Characteristics (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 8)	$V_{(BR)R}$	40	—	—	V	$I_R = 500\mu A$
Forward Voltage Per Element	$V_F$	—	0.465	0.50	V	$I_F = 5A, T_S = +25^\circ C$
		—	0.41	0.45		$I_F = 5A, T_S = +100^\circ C$
		—	0.39	0.43		$I_F = 5A, T_S = +125^\circ C$
		—	0.55	0.60		$I_F = 10A, T_S = +25^\circ C$
		—	0.53	0.57		$I_F = 10A, T_S = +100^\circ C$
		—	0.52	0.56		$I_F = 10A, T_S = +125^\circ C$
Reverse Leakage Current (Note 8) Per Element	$I_R$	—	20	200	$\mu A$	$V_R = 40V, T_S = +25^\circ C$
		—	3	25	mA	$V_R = 40V, T_S = +100^\circ C$
		—	15	150	$\mu A$	$V_R = 35V, T_S = +25^\circ C$
		—	2.5	10	mA	$V_R = 35V, T_S = +100^\circ C$
		—	6	80	$\mu A$	$V_R = 17.5V, T_S = +25^\circ C$
		—	1	5	mA	$V_R = 17.5V, T_S = +100^\circ C$

Notes: 5. FR-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.



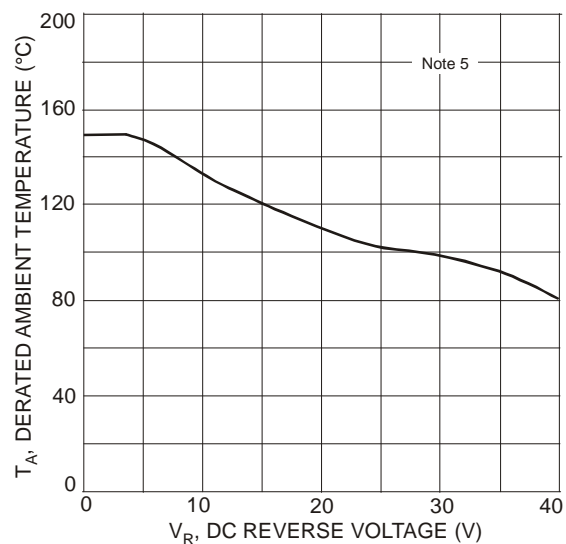
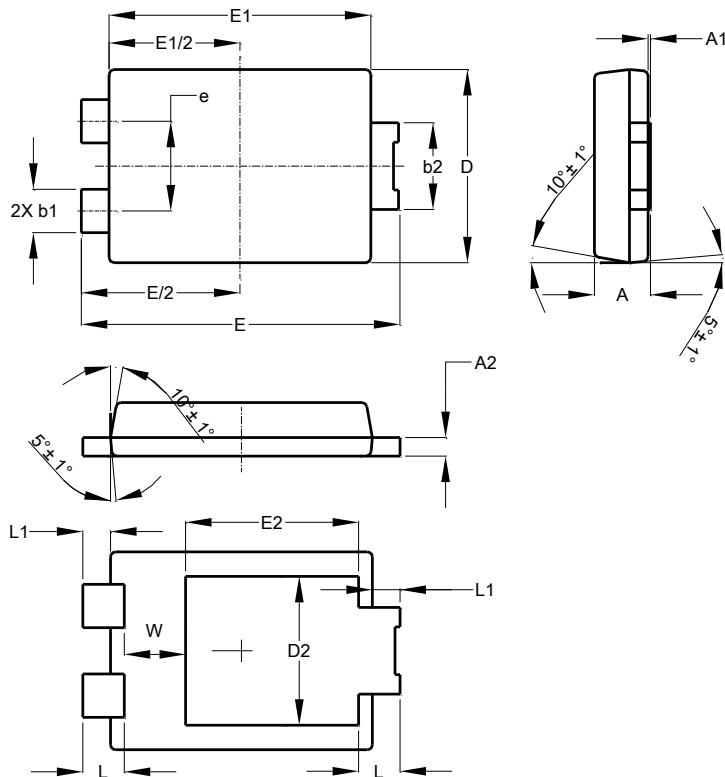


Fig. 7 Operating Temperature Derating, Per Element

## Package Outline Dimensions

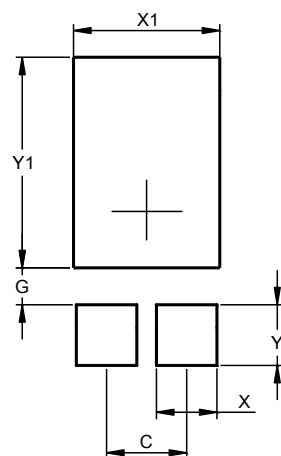
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



POWERDI <sup>®</sup> 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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