


Marking Information



S1045S = Product Type Marking Code
 = Manufacturers' Code Marking
 K = Factory Designator
 YYWW = Date Code Marking
 YY = Last Two Digits of Year (ex: 14 for 2014)
 WW = Week code (01 - 53)

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 _{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}	180	A
Repetitive Peak Avalanche Power (1μs, +25°C)	P _{ARM}	10,000	W

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance	R _{θJL} R _{θJC} R _{θJA} R _{θJA}	3	°C/W
Thermal Resistance Junction to Lead		6	
Thermal Resistance Junction to Case (Note 6)		102	
Thermal Resistance Junction to Ambient (Note 6)		60	
Operating Temperature Range	T _J	V _R ≤ 80% V _{RRM}	°C
		V _R ≤ 50% V _{RRM}	
		DC Forward Mode	
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 = 0.5mA
Forward Voltage Drop	V _F	-	-	0.51	V	I _F = 8A, T _J = +25°C
		-	0.49	0.55		I _F = 10A, T _J = +25°C
		-	0.47	0.53		I _F = 10A, T _J = +125°C
Leakage Current (Note 8)	I _R	-	0.03	0.45	mA	V _R = 45V, T _J = +25°C
		-	-	18		V _R = 45V, T _J = +100°C
		-	17	100		V _R = 45V, T _J = +150°C
Typical Junction Capacitance	C _J	-	500	-	pF	f = MHz, I _R = 4V

Notes: 6. FR-4 PCB, 2oz. Copper, minimum recommended pad layout per <http://www.diodes.com>.
 7. Polyimide PCB, 2oz. Copper, minimum recommended pad layout per <http://www.diodes.com>.
 8. Short duration pulse test used to minimize self-heating effect.

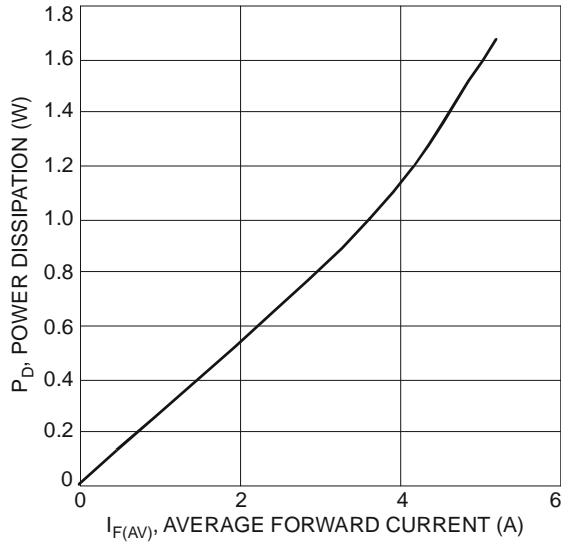


Fig. 1 Forward Power Dissipation

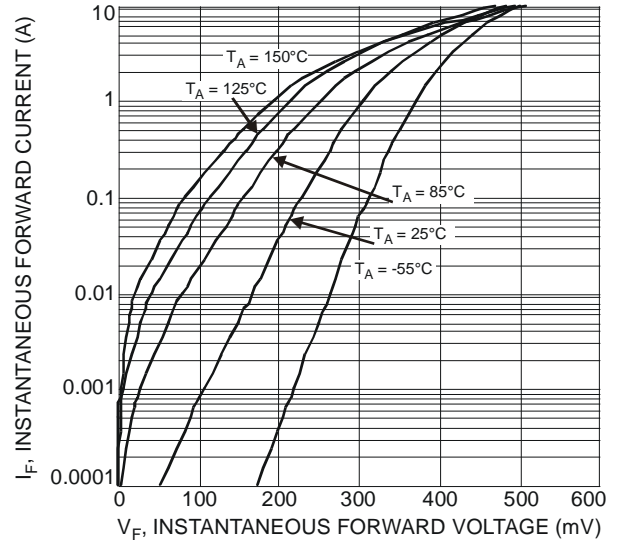


Fig. 2 Typical Forward Characteristics

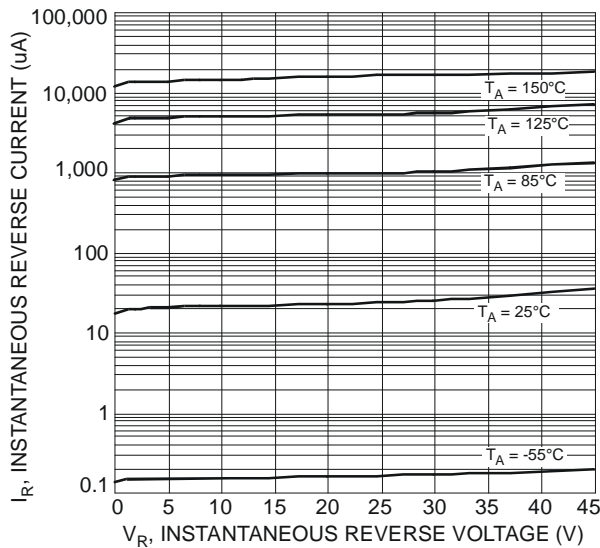


Fig. 3 Typical Reverse Characteristics

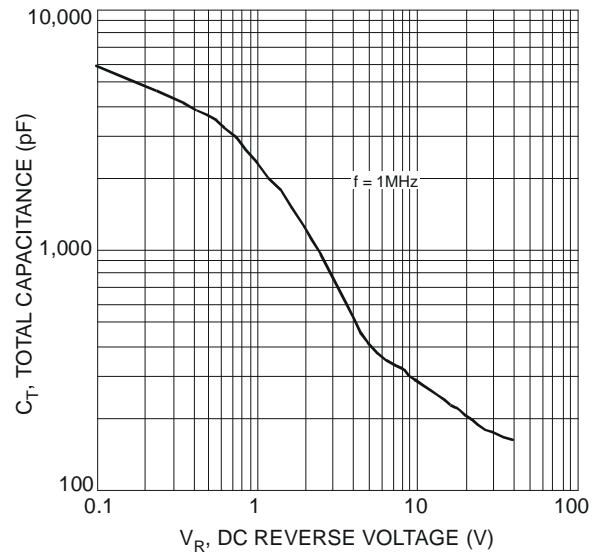


Fig. 4 Total Capacitance vs. Reverse Voltage

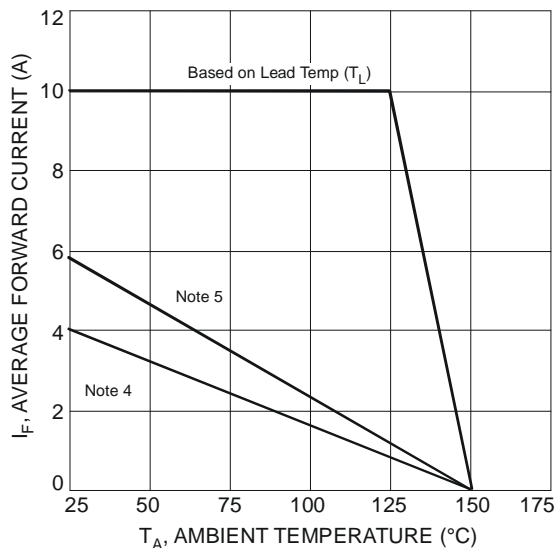


Fig. 5 Forward Current Derating Curve

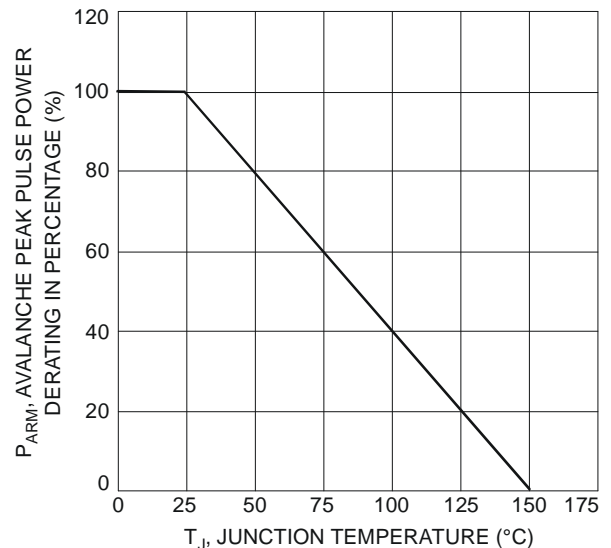


Fig. 6 Pulse Derating Curve

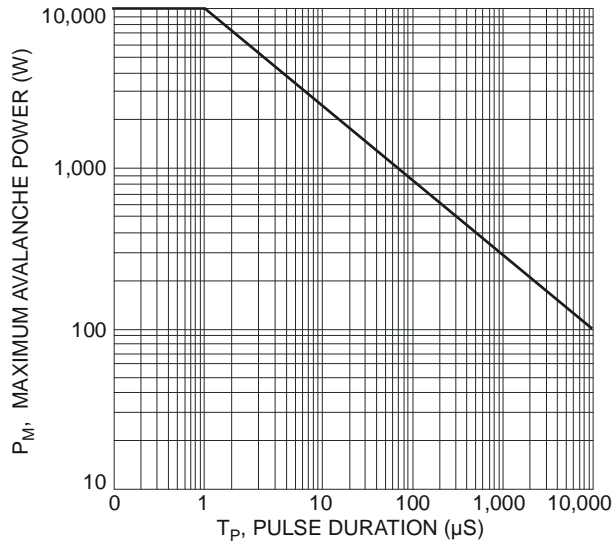
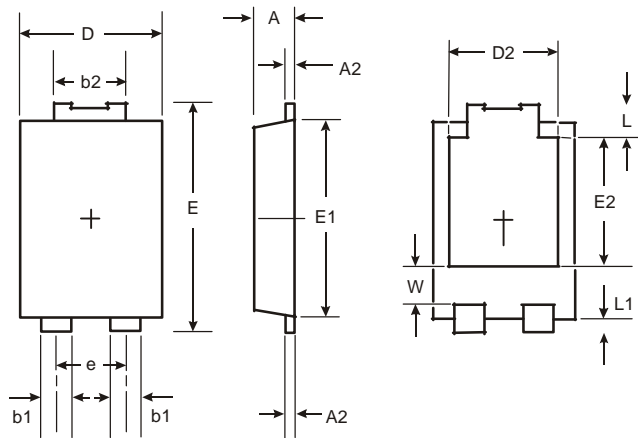


Fig. 7 Maximum Avalanche Power vs. Pulse Duration

Package Outline Dimensions

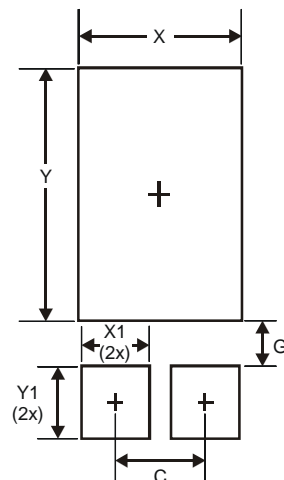
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for latest version.



POWERDI5		
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

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	3.360
X1	1.390
Y	4.860
Y1	1.400

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