

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Peak Pulse Power ( $t_p = 8 \times 20\mu s$ ) (Note 5) $T_A = +25^\circ C$	$P_{pk}$	25	W
Power dissipation (Note 5) $T_A = +25^\circ C$	$P_D$	385	mW
Thermal Resistance, Junction to Ambient (Note 5) $T_A = +25^\circ C$	$R_{\theta JA}$	325	$^\circ C/W$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ C$

## Electrical Characteristics (@ $T_A = +25^\circ C$ , unless otherwise specified.)

Reverse Standoff Voltage	Breakdown Voltage $V_{BR}$ @ $I_T$		Test Current	Max. Reverse Leakage @ $V_{RWM}$ (Note 6)	Max. Clamping Voltage $V_C$ @ $I_{PP}$ (Note 7)		Max Total Capacitance $C_T$ (Note 8) $V_R = 1V$	Typical Total Capacitance $C_T$ (Note 8) $V_R = 3.3V$
$V_{RWM}$ (V)	Min (V)	Max (V)	$I_T$ (mA)	$I_R$ ( $\mu A$ )	$V_C$ (V)	$I_{PP}$ (A)	(pF)	(pF)
5	6.1	8	1.0	0.25	12.5	2	9	5.4

- Notes:
- Device mounted on FR-4 PC board with suggested pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
  - Short duration pulse test used to minimize self-heating effect.
  - Clamping voltage value is based on an  $8 \times 20\mu s$  peak pulse current ( $I_{PP}$ ) waveform.
  - $f = 1MHz$

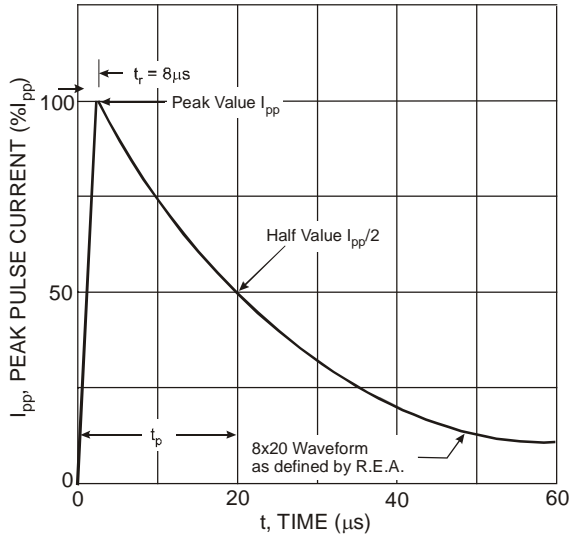


Figure 1 Pulse Waveform

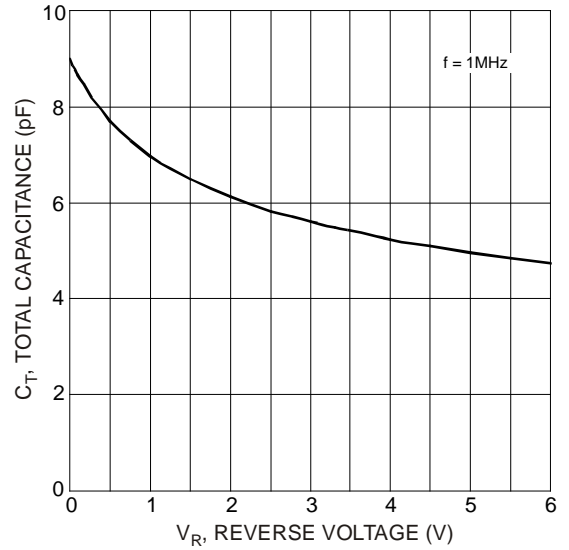


Figure 2 Total Capacitance

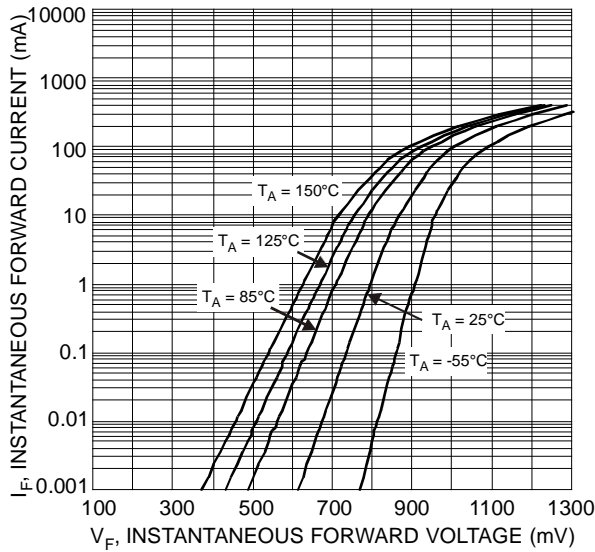


Figure 3 Typical Forward Characteristics

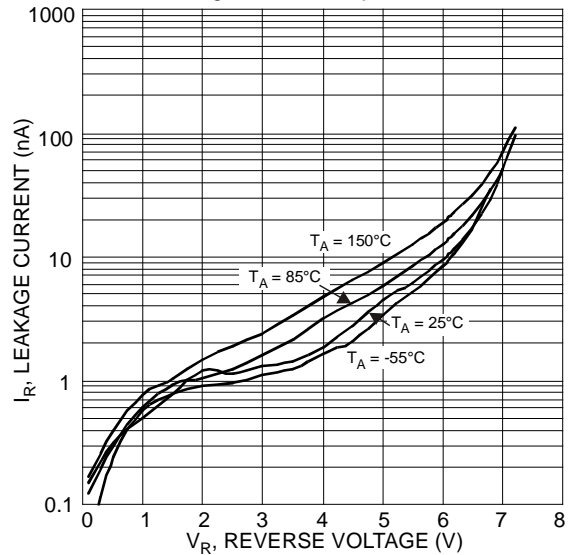


Figure 4 Typical Reverse Characteristics

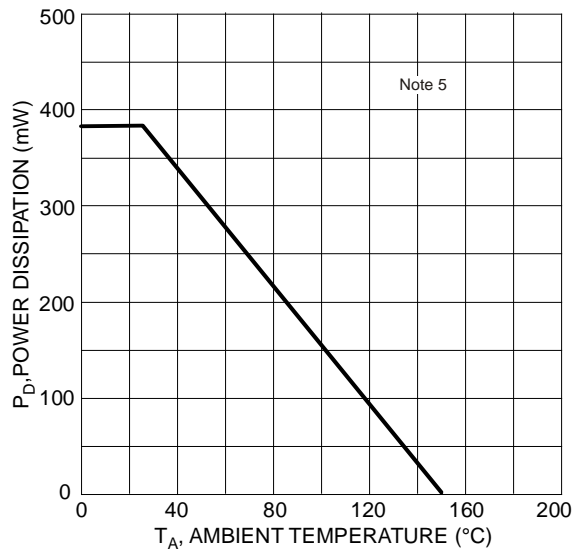
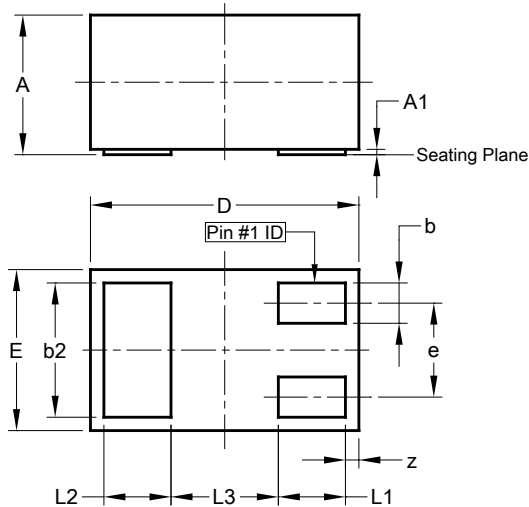


Figure 5 Power Derating Curve

## Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

**X1-DFN1006-3**

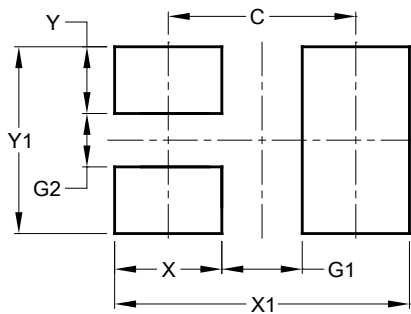


X1-DFN1006-3			
Dim	Min	Max	Typ
A	0.47	0.53	0.50
A1	0.00	0.05	0.03
b	0.10	0.20	0.15
b2	0.45	0.55	0.50
D	0.95	1.075	1.00
E	0.55	0.675	0.60
e	—	—	0.35
L1	0.20	0.30	0.25
L2	0.20	0.30	0.25
L3	—	—	0.40
z	0.02	0.08	0.05
All Dimensions in mm			

## Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

**X1-DFN1006-3**



Dimensions	Value (in mm)
C	0.70
G1	0.30
G2	0.20
X	0.40
X1	1.10
Y	0.25
Y1	0.70

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