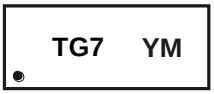
NEW PRODUCT

Marking Information



TG7 = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: B = 2014)
M = Month (ex: 9 = September)

Date Code Key

Year	2014	2015	2016	2017	2018	2019	2020
Code	B	C	D	E	F	G	H

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit	Conditions
Peak Pulse Current	I_{PP}	2.0	A	8/20µs (Note 7)
ESD Protection – Contact Discharge	$V_{ESD\_Contact}$	±12	kV	Standard IEC 61000-4-2
ESD Protection – Air Discharge	V_{ESD_Air}	±15	kV	Standard IEC 61000-4-2

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P_D	300	mW
Thermal Resistance, Junction to Ambient T_A = +25°C	$R_{\theta JA}$	417	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Reverse Standoff Voltage	V_{RWM}	—	—	5.5	V	–
Channel Leakage Current (Note 6)	I_R	—	—	100	nA	V_R = 5V, Any I/O to GND
Reverse breakdown voltage	V_{BR}	6.0	—	—	V	I_R = 1mA
Forward voltage	V_F	—	0.85	—	V	I_F = 4mA
Clamping Voltage, Positive Transients (Note 7)	V_C	—	9.5	11.5	V	I_{PP} = 1A, t_p = 8/20µs
		—	10.5	12.5		I_{PP} = 2A, t_p = 8/20µs
Channel Input Capacitance (Note 8)	C_T	—	0.5	—	pF	V_R = 0V, f = 1MHz, Any I/O to GND
		—	0.4	0.65		V_R = 2.5V, f = 1MHz, Any I/O to GND
Dynamic Resistance	R_{DYN}	—	0.9	—	Ω	I_{PP} = 1A, t_p = 8/20µs

Notes:
5. Device mounted on FR-4 PCB pad layout (2oz copper) as shown on Diodes, Inc. suggested pad layout AP02001, which can be found on our website at http://www.diodes.com.
6. Short duration pulse test used to minimize self-heating effect.
7. Clamping voltage value is based on an 8x20µs peak pulse current (I_{pp}) waveform.
8. Measured from any I/O to GND.
9. For information on the impact of Diodes' USB 2.0 compatible ESD protectors on signal integrity including eye diagram plots, please refer to AN77 at the following URL: http://www.diodes.com/destools/appnote_dnote.html.

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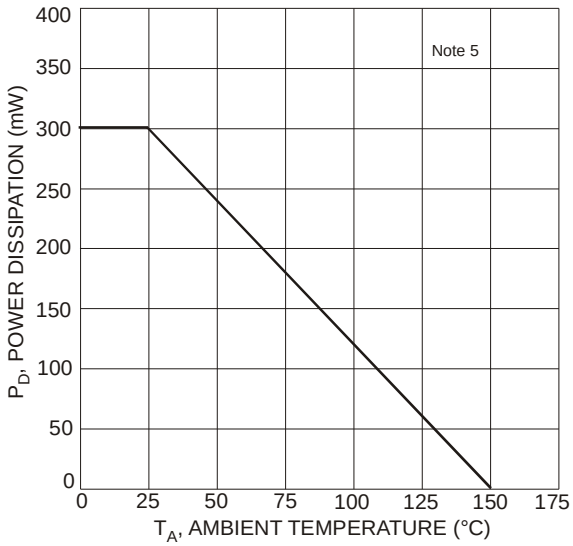

Figure 1 Power Derating Curve

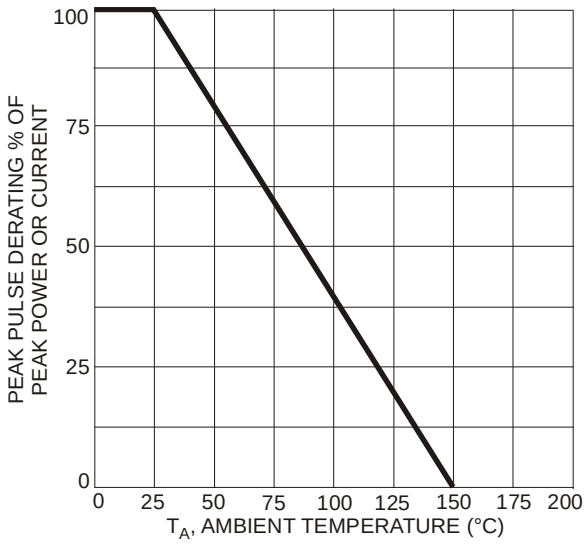

Figure 2 Pulse Derating Curve

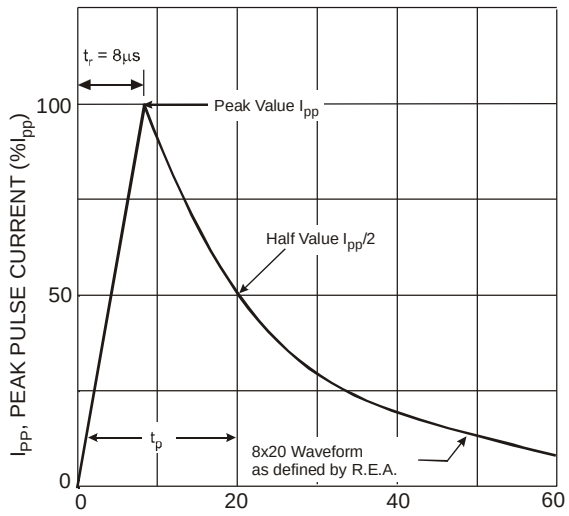

Figure 3 Pulse Waveform

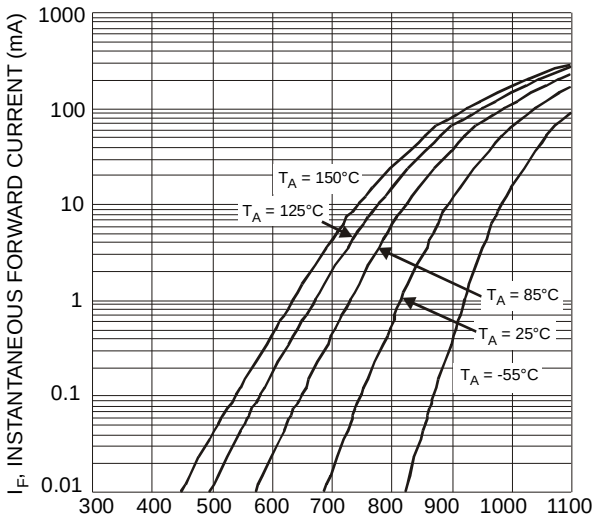

Figure 4 Typical Forward Characteristics

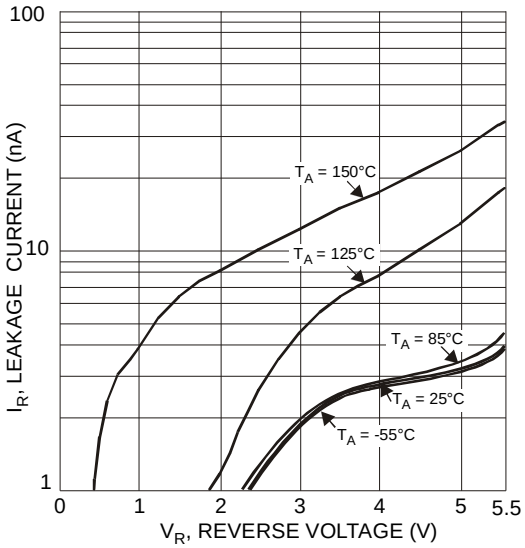

Figure 5 Typical Reverse Characteristics

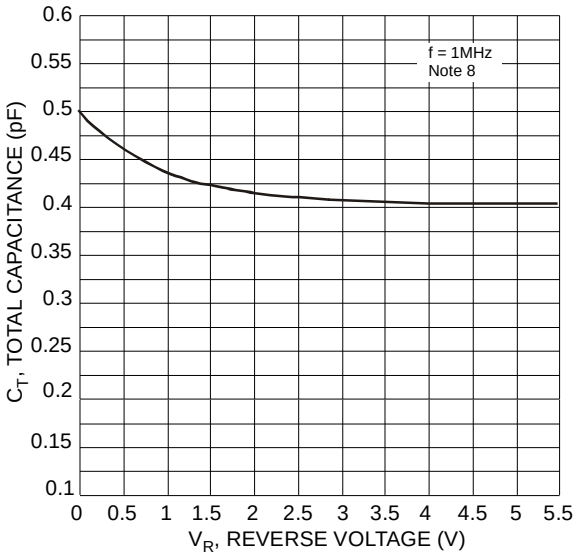

Figure 6 Total Capacitance vs. Reverse Voltage

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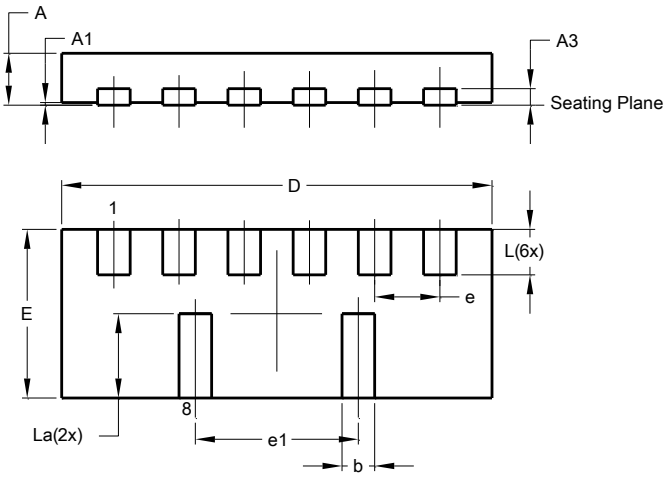
Package Outline Dimensions

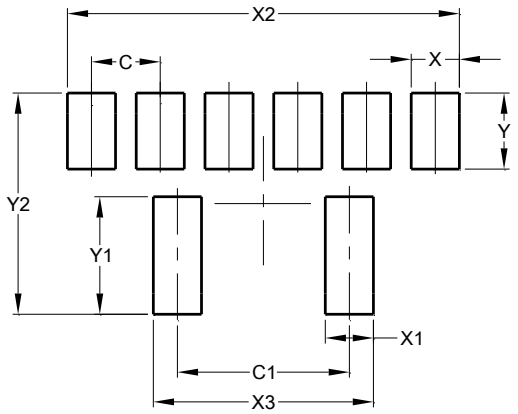
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.



X1-DFN3313-8			
Dim	**Min**	**Max**	**Typ**
A	0.37	0.43	0.40
A1	0	0.05	0.02
A2	-	-	0.13
b	0.20	0.30	0.25
D	3.25	3.38	3.30
E	1.25	1.38	1.30
e	0.50 BSC		
e1	1.25 BSC		
L	0.30	0.43	0.38
L1	0.57	0.70	0.65
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	0.500
C1	1.250
X	0.350
X1	0.350
X2	2.850
X3	1.600
Y	0.550
Y1	0.850
Y2	1.600

NEW PRODUCT

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