


2 CHANNEL LOW CAPACITANCE TVS DIODE ARRAY
Features

- IEC 61000-4-2 (ESD): Air $\pm 15\text{kV}$, Contact $\pm 8\text{kV}$
- 2 Channels of ESD protection
- Low Channel Input Capacitance
- Typically Used at High Speed Ports such as USB 2.0, IEEE1394, Serial ATA, DVI, HDMI, PCI
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

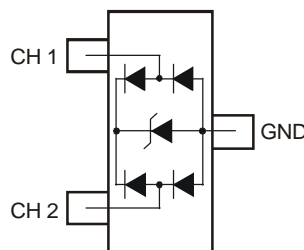
Mechanical Data

- Case: SOT323
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Alloy 42 leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208 
- Weight: 0.006 grams (Approximate)

SOT323



Top View

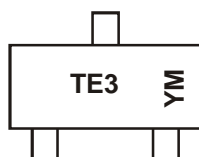


Device Schematic

Ordering Information (Note 4)

Part Number	Case	Packaging
D1213A-02WL-7	SOT323	3,000/Tape & Reel

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
 2. See <http://www.diodes.com> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 4. For packaging details, go to our website at <http://www.diodes.com>.

Marking Information


TE3 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: Z = 2012)
 M = Month (ex: 9 = September)

Date Code Key

Year	2011	2012	2013	2014	2015	2016	2017
Code	Y	Z	A	B	C	D	E

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 (Note 7)	I _{PP}	5	A	8/20μs, Per Fig. 2
ESD Protection – Contact Discharge	V _{ESD Contact}	±8	kV	Standard IEC 61000-4-2
ESD Protection – Air Discharge	V _{ESD Air}	±15	kV	Standard IEC 61000-4-2

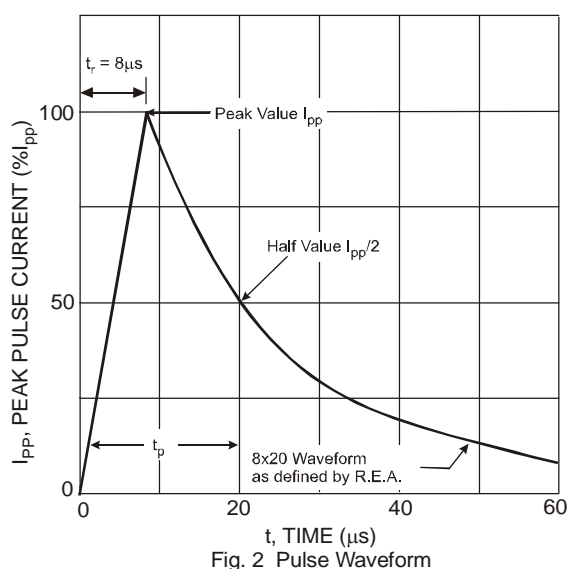
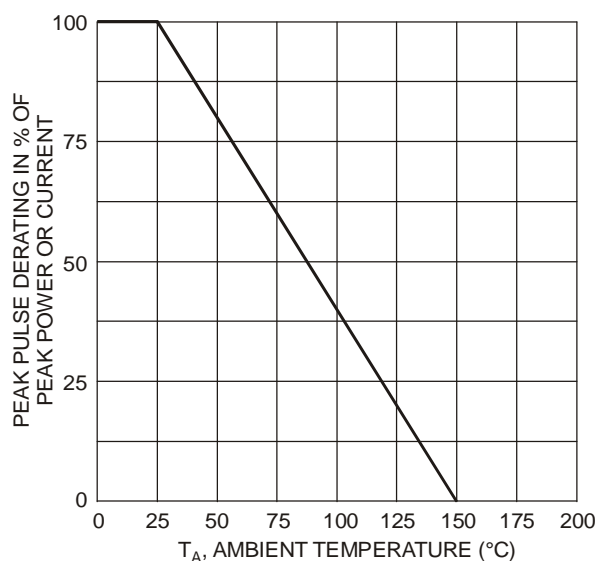
Thermal Characteristics

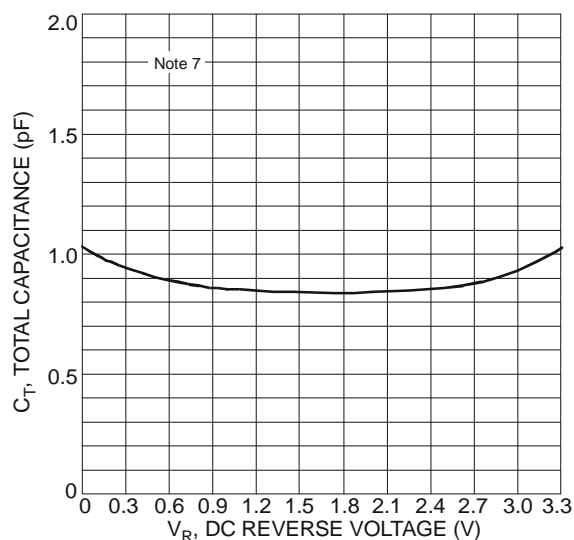
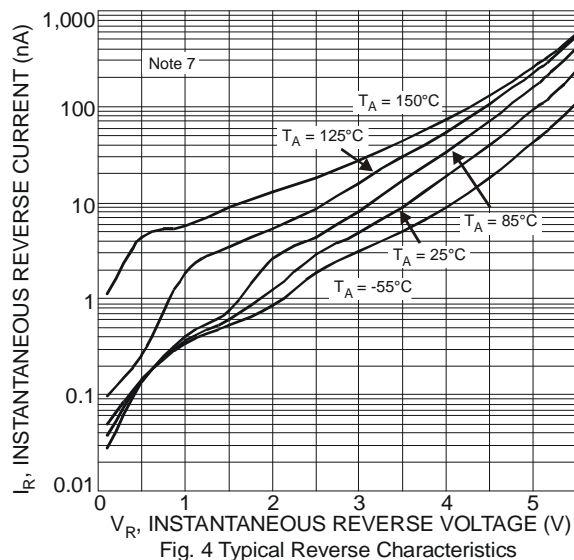
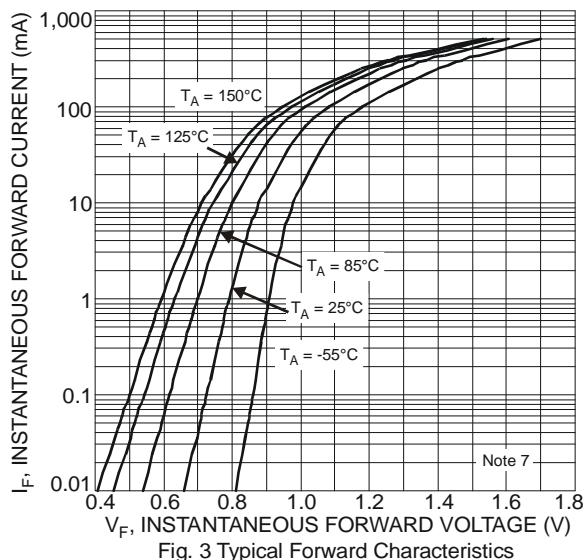
Characteristic	Symbol	Value	Unit
Package Power Dissipation (Note 5)	P _D	200	mW
Thermal Resistance, Junction to Ambient (Note 5)	R _{θJA}	625	°C/W
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{STG}	-65 to +150	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

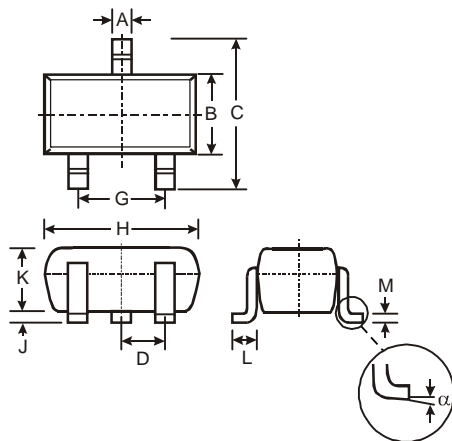
Characteristic (Note 7)	Symbol	Min	Typ	Max	Unit	Test Conditions
Reverse working voltage	V _{RWM}	-	-	3.3	V	-
Reverse current (Note 6)	I _R	-	0.1	1.0	μA	V _R = V _{RWM} = 3.3V
Reverse breakdown voltage	V _{BR}	6.0	7.5	9.0	V	I _R = 1mA
Forward voltage	V _F	0.6	0.8	0.95	V	I _F = 8mA
Reverse clamping voltage, Positive Transients	V _{CL1}	-	10.0	-	V	I _{PP} = 1A, t _p = 8/20μs
Reverse clamping voltage, Negative Transients	V _{CL2}	-	-1.7	-	V	I _{PP} = -1A, t _p = 8/20μs
Dynamic resistance	R _{DYN}	-	0.9	-	Ω	I _R = 1A, t _p = 8/20μs
Capacitance	C _T	-	0.85	1.2	pF	V _R = 1.65V, f = 1MHz

- 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. Measured between any channel and GND



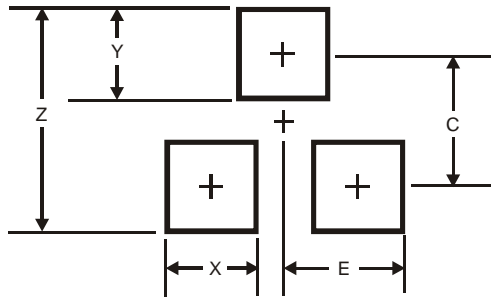


Package Outline Dimensions



SOT323			
Dim	Min	Max	Typ
A	0.25	0.40	0.30
B	1.15	1.35	1.30
C	2.00	2.20	2.10
D	-	-	0.65
G	1.20	1.40	1.30
H	1.80	2.20	2.15
J	0.0	0.10	0.05
K	0.90	1.00	1.00
L	0.25	0.40	0.30
M	0.10	0.18	0.11
α	0°	8°	-
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.8
X	0.7
Y	0.9
C	1.9
E	1.0

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2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

B. A critical component is any component in a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or to affect its safety or effectiveness.

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- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
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