Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

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2 CHANNEL LOW CAPACITANCE TVS DIODE ARRAY

NEW PRODUCT

Features

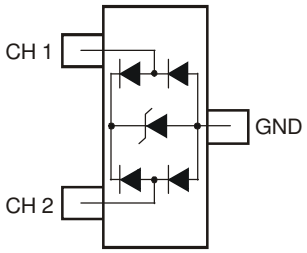
- IEC 61000-4-2 (ESD): Air ±15kV, Contact ±8kV
- 2 Channels of ESD protection
- Low Channel Input Capacitance
- Typically Used at High Speed Ports such as USB 2.0, IEEE1394, Serial ATA, DVI, HDMI, PCI
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green"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

Mechanical Data

- Case: SOT23
- 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 e3
- Weight: 0.009 grams (Approximate)

SOT23

Top View



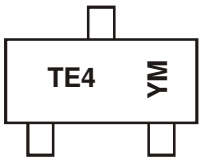
Device Schematic

Ordering Information (Note 4)

Part Number	Case	Packaging
D1213A-02SOL-7	SOT23	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



TE4 = 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

NEW PRODUCT

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit	Conditions
Peak Pulse Current (Note 7)	I_{PP}	5	A	8/20 μs, 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	300	mW
Thermal Resistance, Junction to Ambient (Note 5)	$R_{\theta JA}$	417	°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

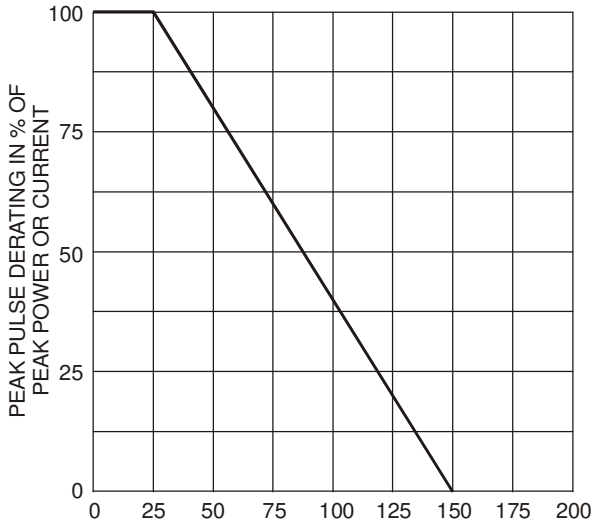


Fig. 1 Pulse Derating Curve

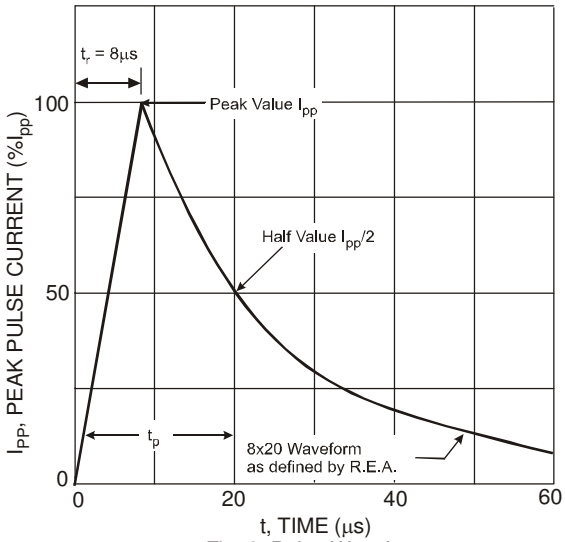


Fig. 2 Pulse Waveform

NEW PRODUCT

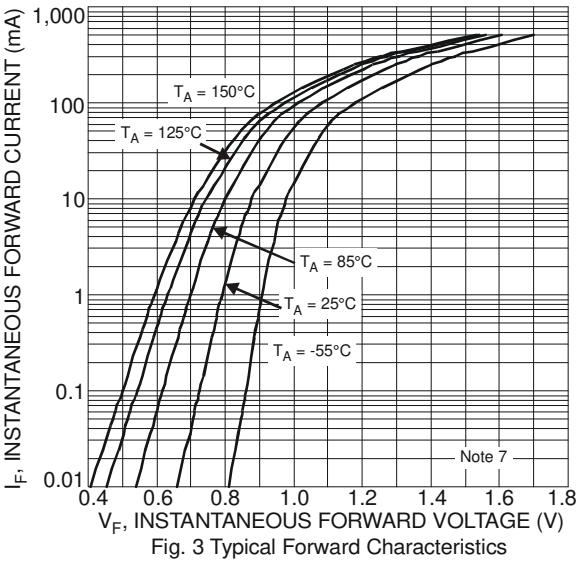


Fig. 3 Typical Forward Characteristics

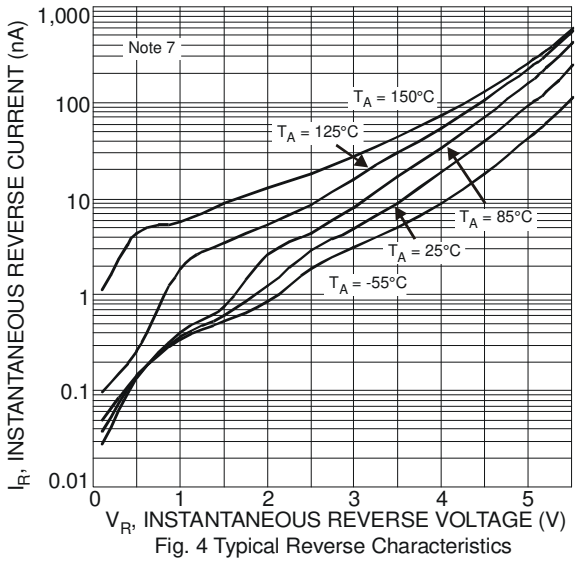


Fig. 4 Typical Reverse Characteristics

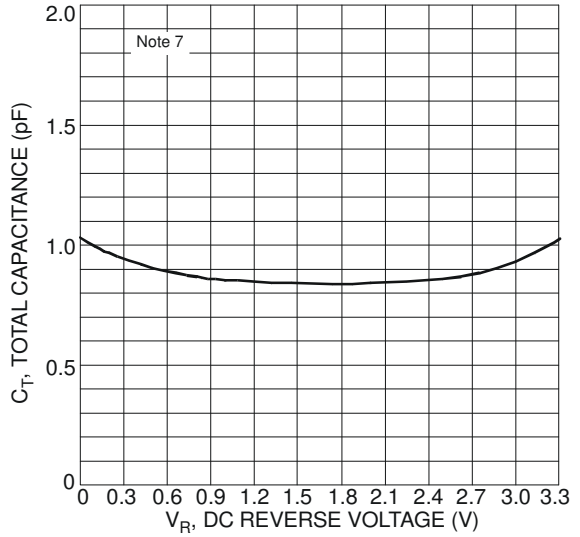
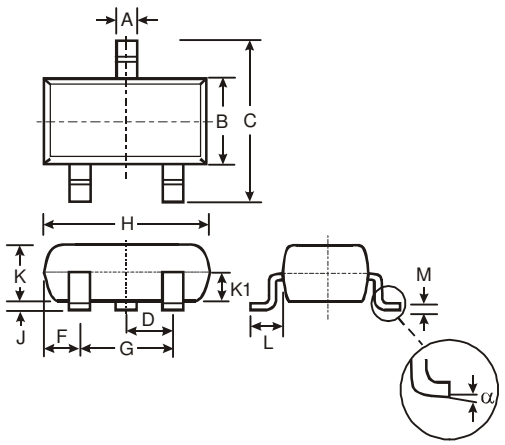


Fig. 5 Total Capacitance vs. Reverse Voltage

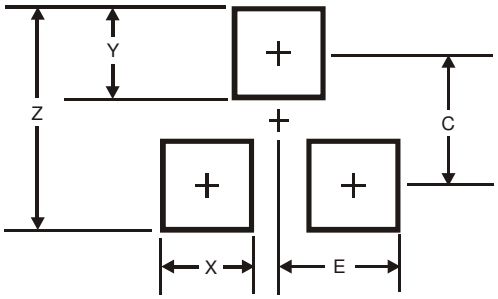
Package Outline Dimensions



SOT23			
Dim	**Min**	**Max**	**Typ**
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.903	1.10	1.00
K1	-	-	0.400
L	0.45	0.61	0.55
M	0.085	0.18	0.11
α	0°	8°	-
All Dimensions in mm			

NEW PRODUCT

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.9
X	0.8
Y	0.9
C	2.0
E	1.35