

Features

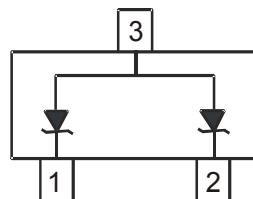
- Provides ESD Protection per IEC 61000-4-2 Standard:
Air – $\pm 16\text{kV}$, Contact – $\pm 9\text{kV}$
- 2 Channels of ESD Protection
- 300 W Peak Pulse Power
- Typically Used at Computers, Printers and Communication Systems
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- Halogen and Antimony Free. "Green" Device (Note 3)**
- Qualified to AEC-Q101 Standards for High Reliability

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: 0.0089 grams (approximate)



Top View



Device Schematic

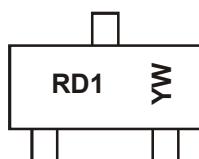
Ordering Information (Note 4)

Part Number	Case	Packaging
DESDA5V3L-7	SOT23	3000/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



RD1 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: Z = 2012)
 M = Month (ex: 9 = September)

Date Code Key

Year	2012	2013	2014	2015	2016	2017	2018					
Code	Z	A	B	C	D	E	F					
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 (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

Characteristic	Symbol	Value	Unit	Conditions
Peak Pulse Power Dissipation	P_{PP}	300	W	8/20 μs , Fig 2
Peak Pulse Current	I_{PP}	20	A	8/20 μs , Fig 2
ESD Protection – Contact Discharge	$V_{ESD_Contact}$	± 9	kV	Standard IEC 61000-4-2
ESD Protection – Air Discharge	V_{ESD_Air}	± 16	kV	Standard IEC 61000-4-2
ESD Protection – Human Body Model	V_{HBM}	± 25	kV	MIL-STD 883C – Method 3015-6

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P_D	250	mW
Thermal Resistance, Junction to Ambient (Note 5)	$R_{\theta JA}$	500	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Reverse Breakdown Voltage	V_{BR}	5.3	–	5.9	V	$I_R = 1\text{mA}$
Reverse Current (Note 6)	I_{RM}	–	–	2	μA	$V_{RM} = 3\text{V}$
Forward Voltage	V_F	–	–	1.25	V	$I_F = 200\text{mA}$
Dynamic Resistance	R_D	–	0.28	–	Ω	$I_{PP} = 15\text{A}$, $t_p = 2.5\mu\text{s}$
Channel Input Capacitance	C_{IN}	–	–	220	pF	$V_{IN} = 0\text{V}$, $f = 1\text{MHz}$

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.

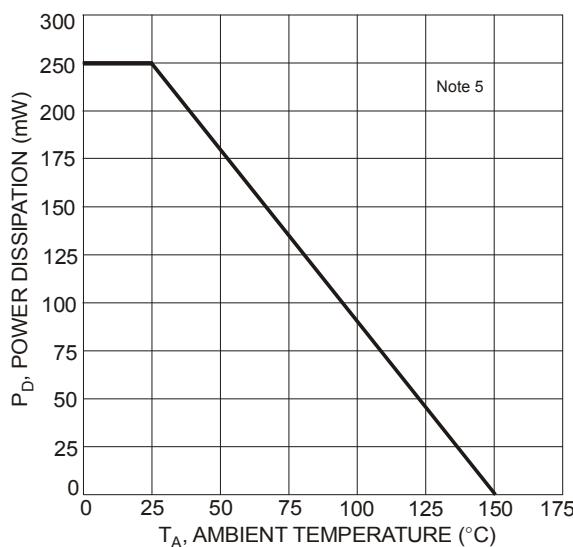
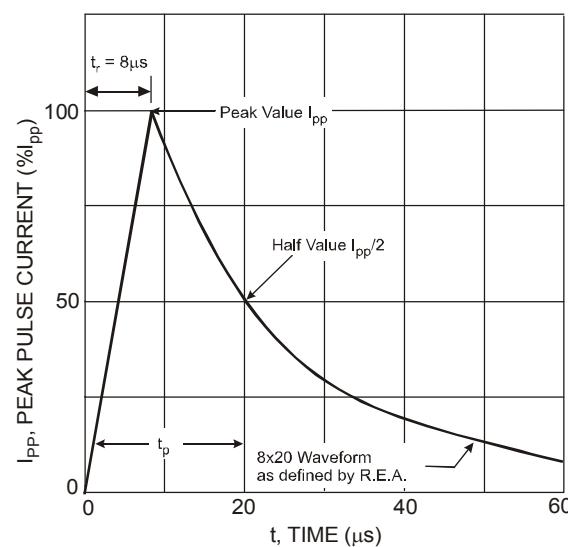
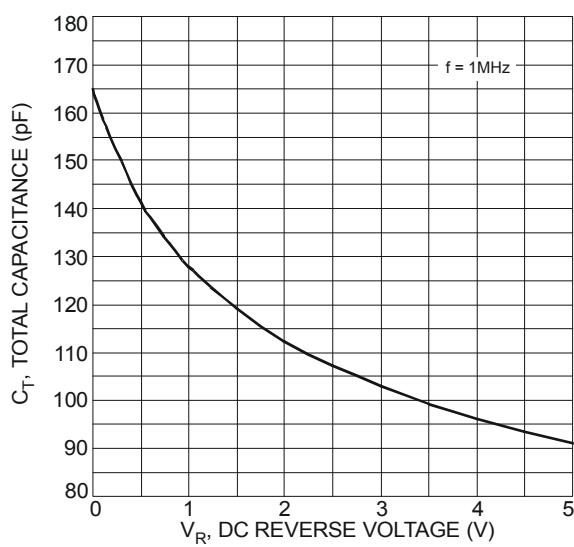
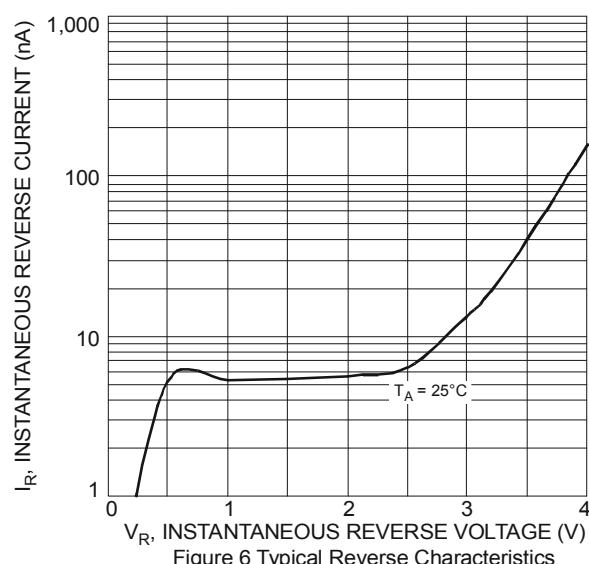
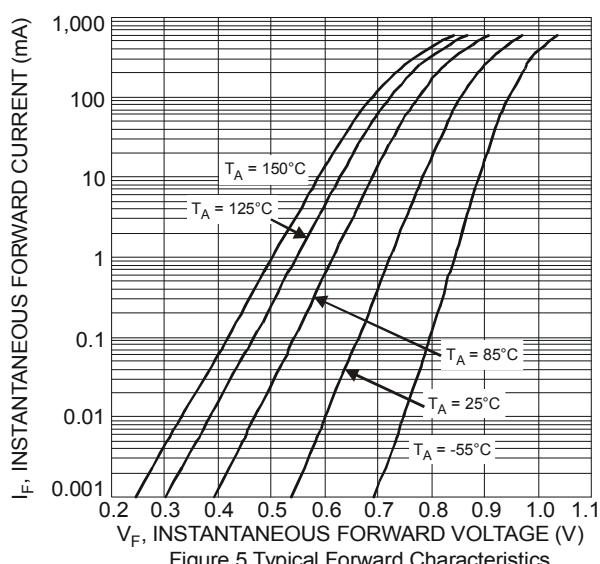
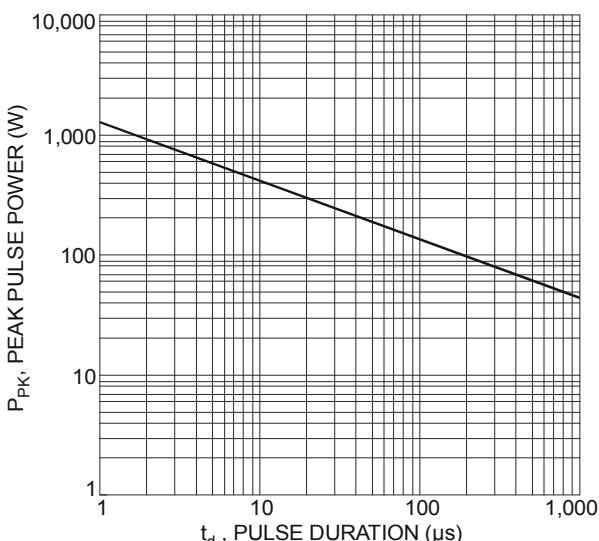
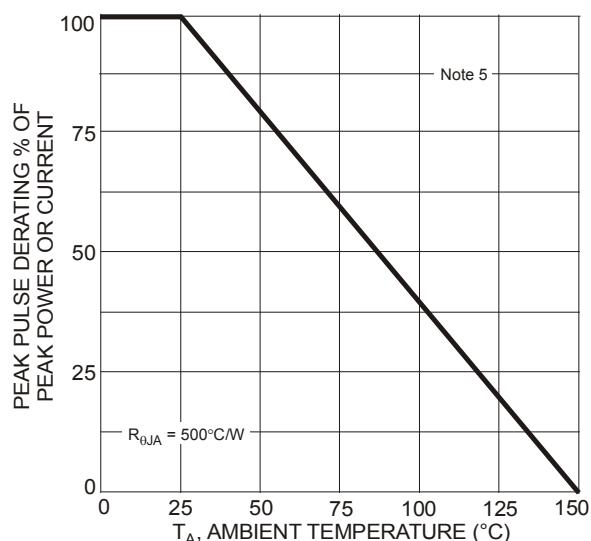


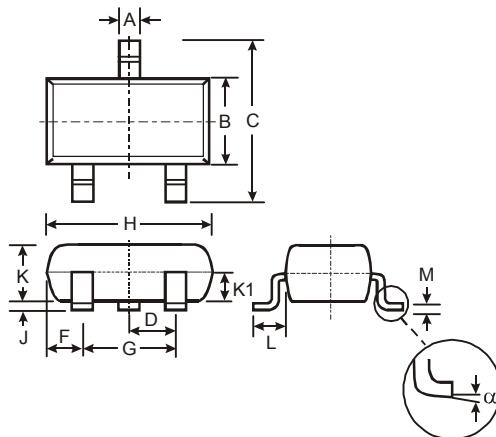
Figure 1 Power Derating Curve


 Figure 2 Typical 8 x 20 μs Pulse Waveform



Package Outline Dimensions

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

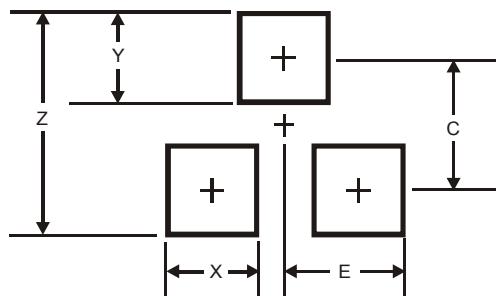


SOT23			
Dim	Min	Max	Typ
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.903	1.10	1.00
K1	-	-	0.400
L	0.45	0.61	0.55
M	0.085	0.18	0.11
α	0°	8°	-

All Dimensions in mm

Suggested Pad Layout

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



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

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