



### UNIDIRECTIONAL SURFACE MOUNT TVS

### **Features**

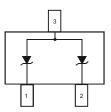
- 260 Watts Peak Pulse Power (tp = 8x20μs)
- 61000-4-2 (ESD): Air 30kV, Contact 30kV
- MIL-STD 883(ESD), HBM 10kV
- Low Reverse Leakage Current,  $I_R < 1\mu A$
- Unidirectional Configuration
- Lead Free/RoHS Compliant (Note 3)
- "Green" Device (Note 4)
- Qualified to AEC-Q101 Standards for High Reliability



Top View

## **Mechanical Data**

- Case: SOT-23
- Case Material: Molded Plastic, "Green" Molding Compound, Note 3. 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
- Ordering Information: See Page 2
- Marking Information: See Page 2
- Weight: 0.0089 grams (approximate)



**Device Schematic** 

### Thermal Characteristics - Total Device

Characteristic		Symbol	Value	Unit
Peak Pulse Power (tp = 8x20μs) (No	ote 6) T <sub>A</sub> = 25°C	$P_{pk}$	260	W
Thermal Resistance, Junction to Ambient (No	ote 6) T <sub>A</sub> = 25°C	$R_{ hetaJA}$	417	°C/W
Operating and Storage Temperature Range		$T_J,T_STG$	-65 to +150	°C

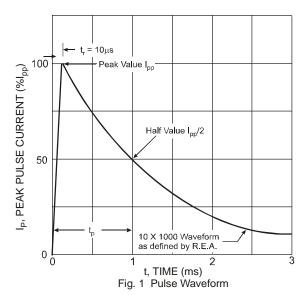
## **Electrical Characteristics** @T<sub>A</sub> = 25°C unless otherwise specified

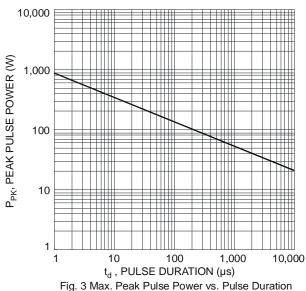
Reverse Standoff Voltage	Vol	down age @ I <sub>T</sub>	Test Current	Max. Reverse Leakage @ V <sub>RWM</sub> (Note 5)	Max. Clamping Voltage @ I <sub>pp</sub> = 1A (Note 2)		amping e V <sub>c</sub> @ ote 2)	Typical Total Capacitance C <sub>T</sub> (Note 1)	Maximum Total Capacitance C <sub>T</sub> (Note 1)
V <sub>RWM</sub> (V)	Min (V)	Max (V)	I <sub>T</sub> (mA)	I <sub>R</sub> (μA)	V <sub>C</sub> (V)	V <sub>c</sub> (V)	I <sub>PP</sub> (A)	(pF)	(pF)
5.2	6.4	7.2	5.0	1	9	20	15	165	200

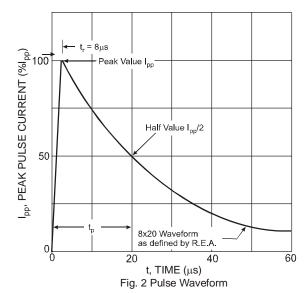
Notes:

- 1.  $V_R = 0V$ , f = 1MHz.
- 2. Clamping voltage value is based on an 8x20 μs peak pulse current (I<sub>pp</sub>) waveform.
- 3. No purposefully added lead.
- 4. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead\_free/index.php.
- 5. Short duration pulse test used to minimize self-heating effect.
- 6. 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.
- 7. Measured across either pin 1 and pin 3 or pin 2 and pin 3.









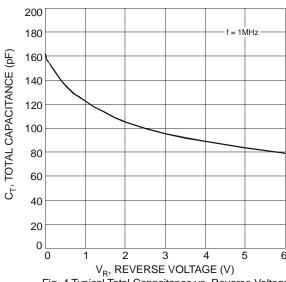


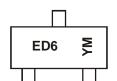
Fig. 4 Typical Total Capacitance vs. Reverse Voltage

## Ordering Information (Note 8)

Part Number	Case	Packaging
DESD5V2S2UT-7	SOT-23	3000/Tape & Reel

Notes: 8. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

## **Marking Information**



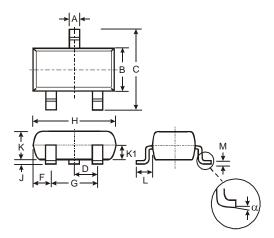
ED6 = Product Type Marking Code YM = Date Code Marking Y = Year (ex: W = 2009)M = Month (ex: 9 = September)

Date Code Key

Year	200	9	2010		2011	20	12	2013		2014	2	2015
Code	W		Χ		Υ	2	7	Α		В		С
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

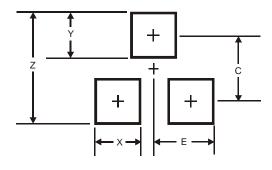


## **Package Outline Dimensions**



SOT-23						
Dim	Min	Max	Тур			
Α	0.37	0.51	0.40			
В	1.20	1.40	1.30			
С	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			
Н	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	All Dimensions in mm					

# **Suggested Pad Layout**



Dimensions	Value (in mm)
Z	2.9
Х	0.8
Y	0.9
С	2.0
E	1.35



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