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PESD5V0U2BT

2-Line Bi-directional TVS Diode Array

Features

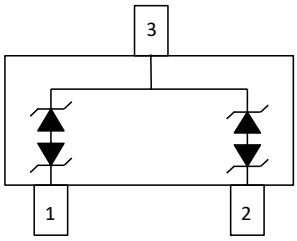
- Very low capacitance: 3pF typical
- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- Small SOT-23 package
- Up to 2-line protects
- Complies with following standards:
  – IEC 61000-4-2 (ESD) immunity test
    Air discharge: ±15kV
    Contact discharge: ±8kV
  – IEC61000-4-5 (Lightning) 3.5A (8/20μs
- RoHS Compliant



SOT-23

Mechanical Characteristics

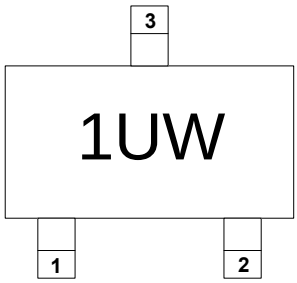
- Package: SOT-23
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound.
- Terminal Connections: See Diagram Below
- Marking Information: See Below



Circuit diagram

Applications

- Cellular Handsets and Accessories
- Notebooks and Handhelds
- Portable Instrumentation
- Set Top Box
- Industrial Controls
- Server and Desktop PC



1UW= Device code

Marking (Top View)

Ordering Information

Part Number	Packaging	Reel Size
PESD5V0U2BT	3000/Tape & Reel	7 inch

Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

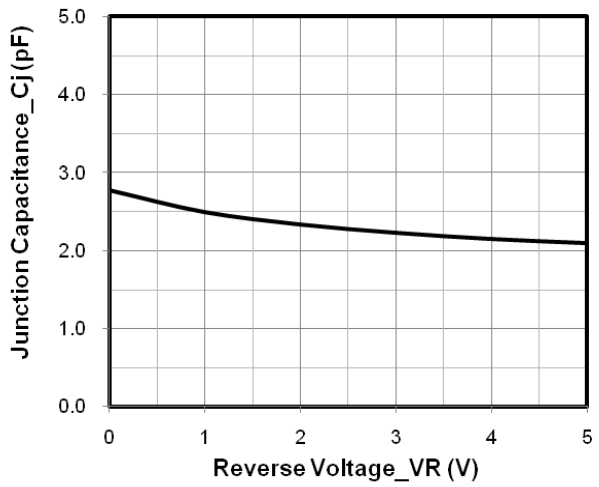
Parameter	Symbol	Value	Unit
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	±15 ±8	kV
Peak Pulse Power (8/20μs)	P_{PK}	35	W
Peak Pulse Current	I_{PP}	3.5	A
Operating Temperature Range	T_J	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

Electrical Characteristics (T_A=25°C unless otherwise specified)

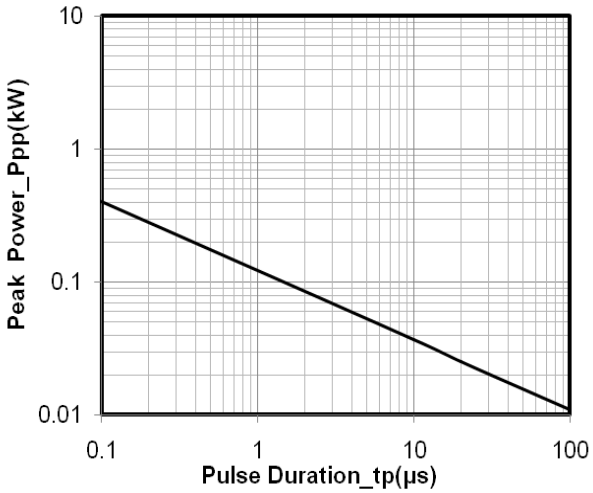
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			5	V	
Breakdown Voltage	V_{BR}	5.6			V	I_T = 1mA
Reverse Leakage Current	I_R			0.1	μA	V_{RWM} = 5V
Clamping Voltage	V_C		7.5	9	V	I_{PP} = 1A (8 x 20μs pulse),
Clamping Voltage	V_C		10.5	12	V	I_{PP} = 3.5A (8 x 20μs pulse)
Junction Capacitance	C_J		3.0		pF	VR = 0V, f = 1MHz, any I/O pin to pin 3

Note 1: I/O pins are Pin 1, 2

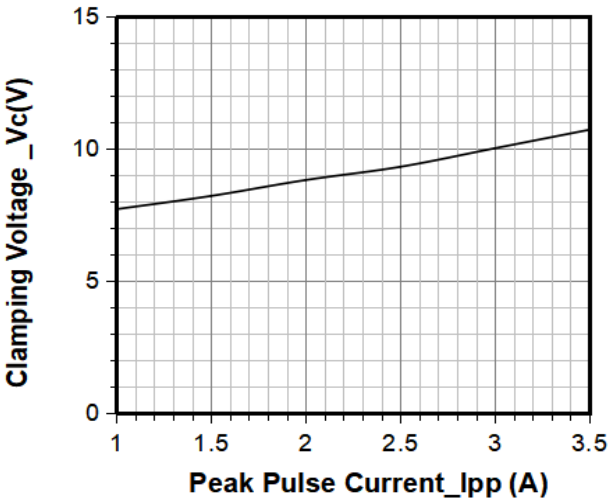
Typical Performance Characteristics (TA=25°C unless otherwise Specified)



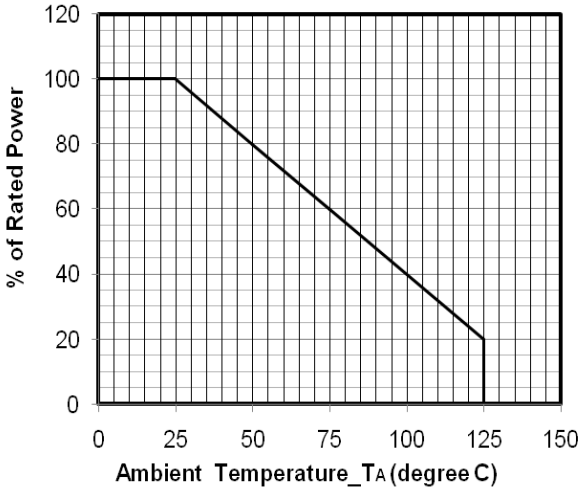
Junction Capacitance vs. Reverse Voltage



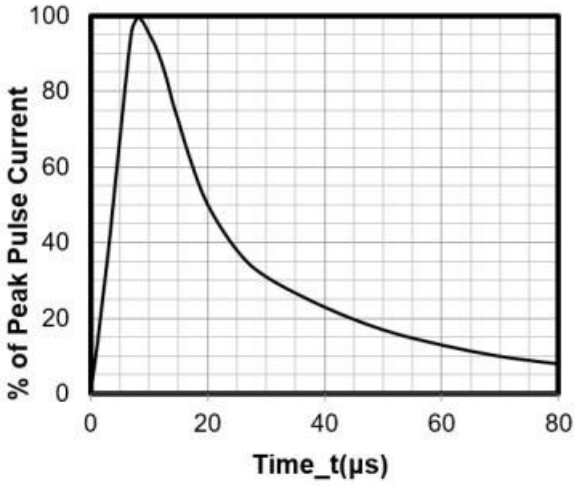
Peak Pulse Power vs. Pulse Time



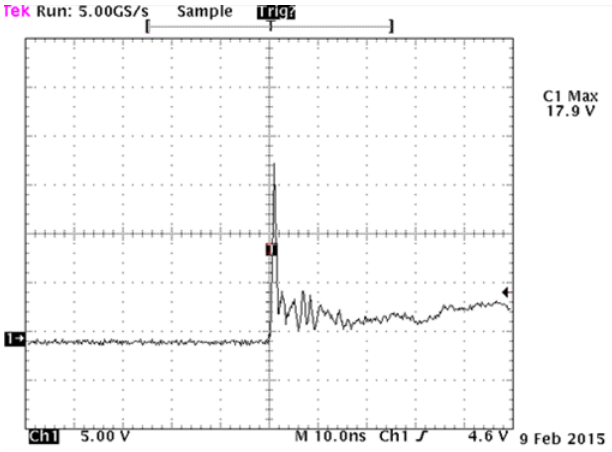
Clamping Voltage vs. Peak Pulse Current (tp = 8/20us)



Power Derating Curve



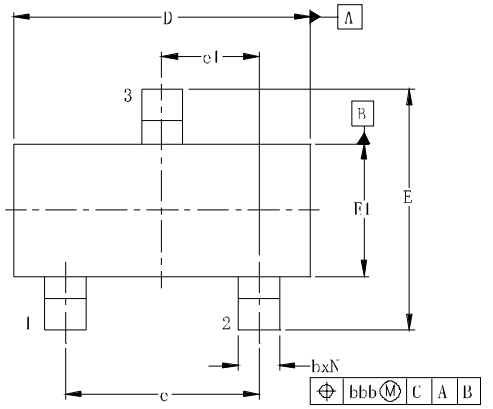
8 X 20μs Pulse Waveform

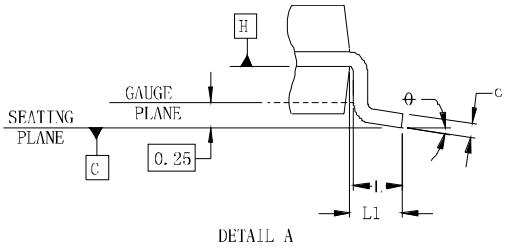


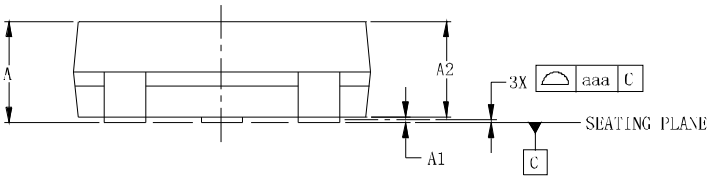
Note：Data is taken with a 10x attenuator

ESD Clamping Voltage

+8 kV Contact per IEC61000−4−2

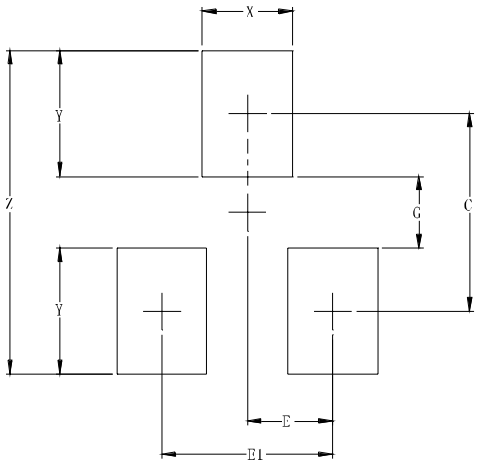






DIMENSIONS						
SYM	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.035	-	0.045	0.89	-	1.15
A1	0.000	-	0.004	0.01	-	0.10
A2	0.035	0.037	0.040	0.88	0.95	1.02
b	0.012	-	0.020	0.30	-	0.51
c	0.003	-	0.007	0.08	-	0.18
D	0.110	0.114	0.120	2.80	2.90	3.04
E	0.082	0.093	0.104	2.10	2.37	2.64
E1	0.047	0.051	0.055	1.20	1.30	1.40
e	0.075			1.90BSC		
e1	0.037			0.95BSC		
L	0.015	0.020	0.024	0.40	0.50	0.60
L1	0.022			0.55		
N	3			3		
θ	0°	-	8°	0°	-	8°
aaa	0.004			0.10		
bbb	0.008			0.20		

Suggested Land Pattern



DIMENSIONS		
SYM	INCHES	MILLIMETERS
C	0.087	2.20
E	0.037	0.95
E1	0.075	1.90
G	0.031	0.80
X	0.039	1.00
Y	0.055	1.40
Z	0.141	3.60