

200W, 24V ESD Protection Array

FEATURES

- Small package for use in portable electronics
- Meet IEC61000-4-2(ESD) $\pm 30\text{kV}(\text{air})$, $\pm 30\text{kV}(\text{contact})$
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- High Speed Line: USB 2.0 / VGA/ DVI /SDI /HDMI
- Touch Panel
- Battery Management System
- POE PD

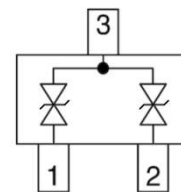
MECHANICAL DATA

- Case: SOT-23
- Molding compound meets UL 94 V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Weight: 8.70mg (approximately)
- Marking code on the device: W3

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
P_{PPM}	200	W
I_{PP}	3	A
V_{WM}	24	V
V_C at $I_{PP} = 3\text{ A}$	70	V
Package	SOT-23	



SOT-23



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	TESD24VS2BT	UNIT
Rated random recurring peak Impulse power dissipation ($t_p = 8/20\mu\text{s}$ waveform)	P_{PPM}	200	W
Peak impulse current ($t_p = 8/20\mu\text{s}$ waveform)	I_{PP}	3	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	kV
Junction temperature range	T_J	-55 to +150	$^\circ\text{C}$
Storage temperature range	T_{STG}	-55 to +150	$^\circ\text{C}$

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Reverse breakdown voltage ⁽¹⁾	$I_R = 5\text{mA}$	$V_{(BR)}$	25.4	-	-	V
Rated working standoff voltage		V_{WM}	-	-	24	V
Reverse current ⁽¹⁾	$V_R = 24\text{V}$	I_R	-	-	50	nA
Clamping voltage ⁽²⁾	$I_{PP} = 1\text{A}$	V_C	-	-	40	V
Clamping voltage ⁽²⁾	$I_{PP} = 3\text{A}$	V_C	-	-	70	V
Junction capacitance	1MHz, $V_R = 0\text{V}$	C_J	-	11	-	pF

Notes:

1. Pulse test with $PW = 30\text{ms}$
2. $t_p = 8/20\mu\text{s}$ waveform

ORDERING INFORMATION		
ORDERING CODE	PACKAGE	PACKING
TESD24VS2BT RFG	SOT-23	3K / 7" Reel

CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig.1 8/20 μs pulse waveform according to IEC 61000-4-5

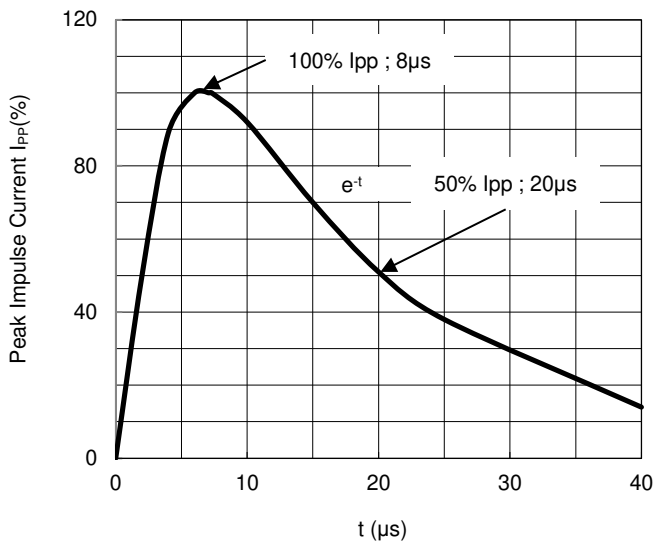


Fig.2 ESD pulse waveform according to IEC 61000-4-2

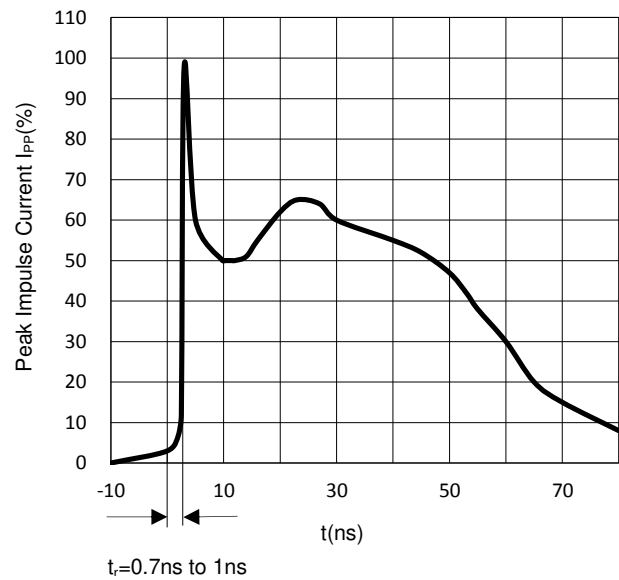
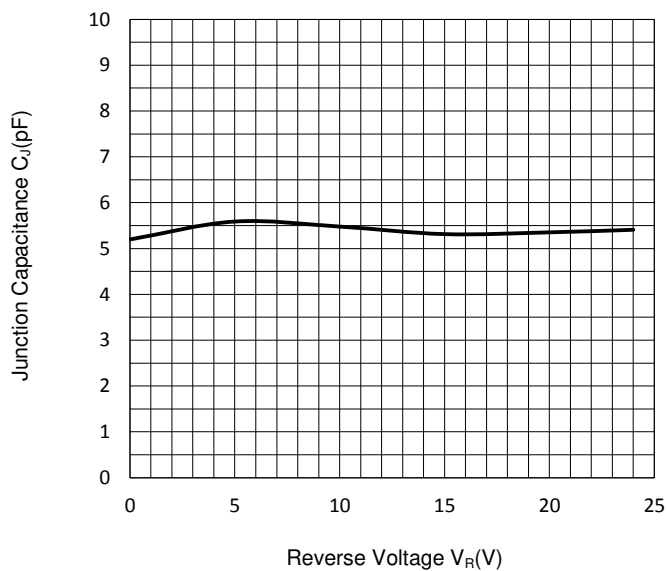
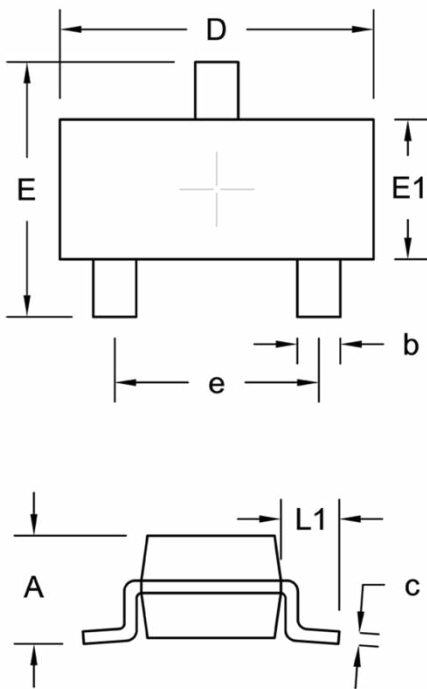


Fig.3 Typical Junction Capacitance



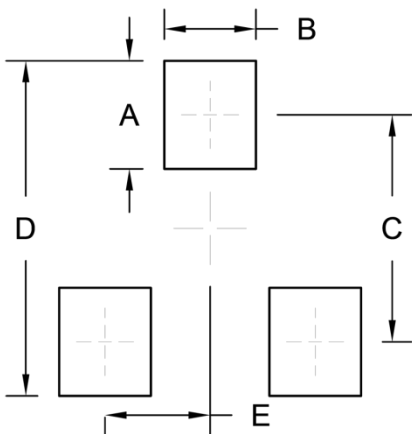
PACKAGE OUTLINE DIMENSIONS

SOT-23



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	0.89	1.12	0.035	0.044
b	0.30	0.50	0.012	0.020
c	0.08	0.20	0.003	0.008
D	2.80	3.04	0.110	0.120
E	2.10	2.64	0.083	0.104
E1	1.20	1.40	0.047	0.055
e	1.90 BSC		0.075 BSC	
L1	0.54 REF.		0.021 REF.	

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	1.00	0.039
B	0.85	0.033
C	2.10	0.083
D	3.10	0.122
E	0.98	0.039

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