

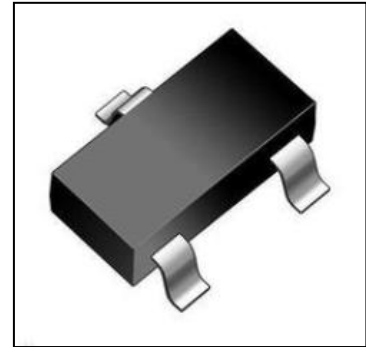


S23T24-B

Transient Voltage Suppressor

Features

- 300 watts peak pulse power ($t_p = 8/20\mu s$)
- ESD Protection > 40 kilovolts
- Protects one bidirectional line or two unidirectional lines
- Working Voltages: 24V
- Two devices protect two high-speed line pairs
- Low clamping voltages



IEC COMPATIBILITY (EN61000-4)

SOT-23

- IEC 61000-4-2 (ESD) $\pm 15kV$ (air), $\pm 8kV$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 18A (8/20 μs)

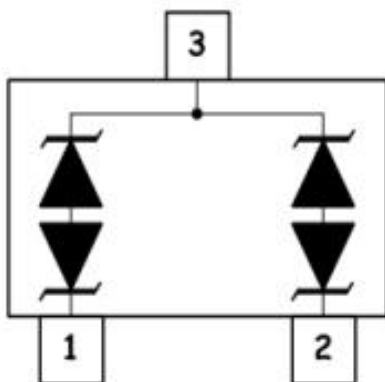
Mechanical Characteristics

- JEDEC SOT23 package
- Molding compound flammability rating: UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS/WEEE Compliant

Applications

- RS-232, RS-422 & RS-485
- Cellular Handsets and Accessories
- Control & Monitoring Systems
- Portable Electronics
- Set-Top Box
- Servers, Notebook, and Desktop PC
- Wireless Bus Protection

Schematic & PIN Configuration





Sanyan'S Overvoltage Protection Products

Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu s$)	P_{PP}	300	Watts
Lead Soldering Temperature	T_L	260(10sec)	$^{\circ}C$
Operating Temperature	T_J	-55 to + 125	$^{\circ}C$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}C$

Electrical Characteristics

S23T24-B						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				24	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	26.7			V
Reverse Leakage Current	I_R	$V_{RWM}=3.3V, T=25^{\circ}C$			2	μA
Peak Pulse Current	I_{PP}	$t_p=8/20\mu s$			8	A
Clamping Voltage	V_C	$I_{PP}=1A, t_p=8/20\mu s$			43	V
Maximum Clamping Voltage	V_C	$I_{PP}=5A, t_p=8/20\mu s$			56	V
Off state junction Capacitance	C_j	$V_R=0V, f=1MHz$ Between I/O pins and GND		40		pF

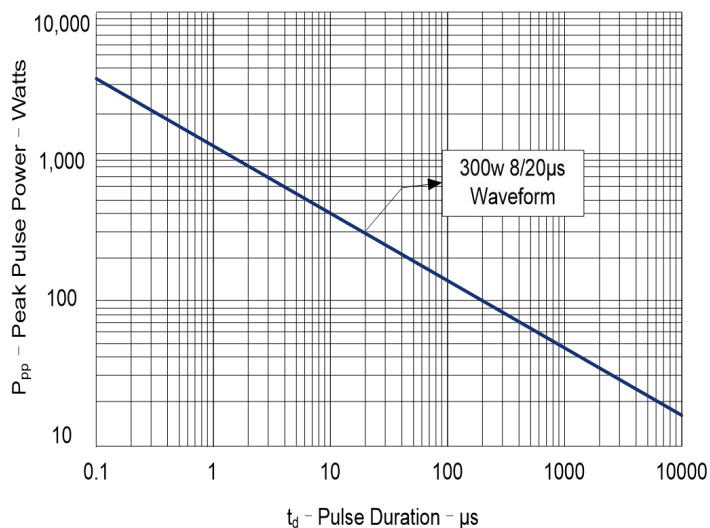


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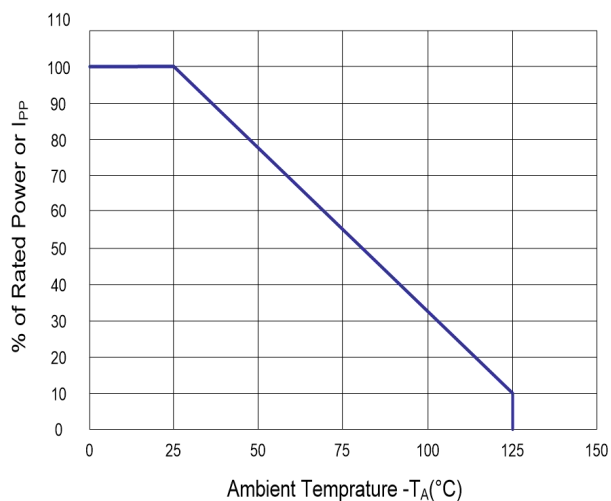
Transient Voltage Suppressor

Typical Characteristics

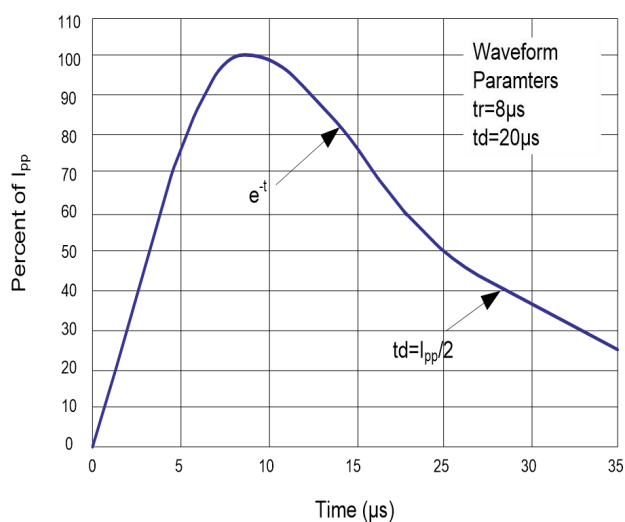
Peak Pulse Power vs. Pulse Time



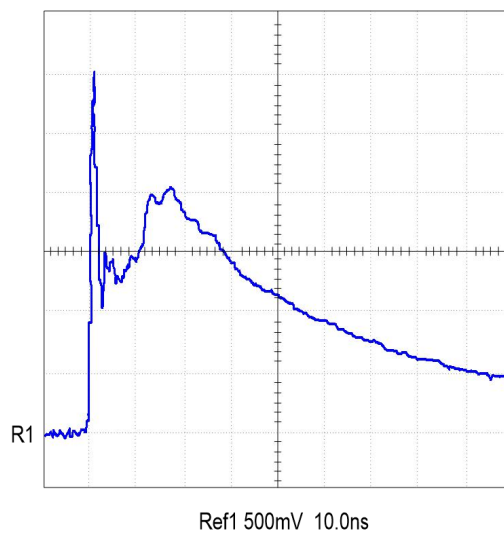
Power Derating Curve



Pulse Waveform



ESD Pulse Waveform (Per IEC 61000-4-2)



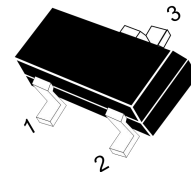
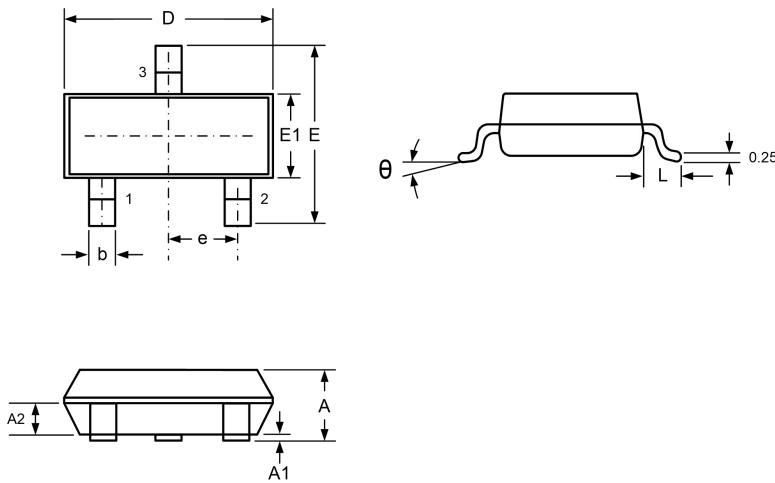


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Outline Drawing – SOT-23

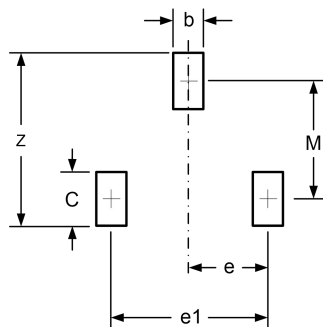
PACKAGE OUTLINE



SOT-23

DIMENSIONS

SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
D	2.800	3.000	0.110	0.118
b	0.300	0.500	0.012	0.020
E	2.250	2.550	0.089	0.100
E1	1.200	1.400	0.047	0.055
e	0.950 BSC		0.037 BSC	
L	0.300	0.500	0.012	0.020
θ	0	8°	0	8°



DIMENSIONS		
DIM	INCHES	MILLIMETERS
M	0.088	2.20
C	0.0058	0.15
Z	0.093	2.35
e	0.037 BSC	0.95 BSC
e1	0.074 BSC	1.9 BSC
b	0.0389	0.35

Notes

1. Dimensioning and tolerances per ANSI Y14.5M, 1985.
2. Controlling Dimension: Inches
3. Pin 3 is the cathode (Unidirectional Only).
4. Dimensions are exclusive of mold flash and metal burrs.