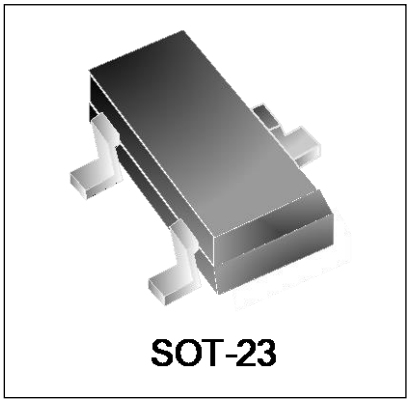
WE7218WT-AT

Transient Voltage Suppressor

Features

- Low Clamping Voltage
- Working Voltages: 24V
- Low Leakage Current
- Fully OPEN Alliance 100BASE-T1 and 1000BASE-T1 compliant
- AEC-Q101 Qualified



IEC COMPATIBILITY (EN61000-4)

- **IEC 61000-4-4 (EFT) 40A (5/50ns)**
- **IEC 61000-4-5 (Lightning) 2A (8/20μs)**

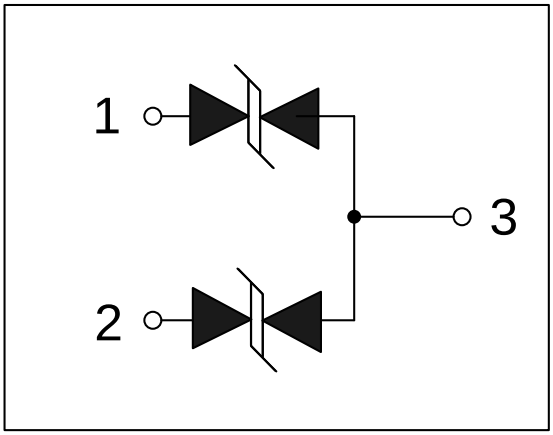
Mechanical Characteristics

- JEDEC SOT-23 package
- Marking: Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS Compliant & HF
- Device meets MSL1 requirement

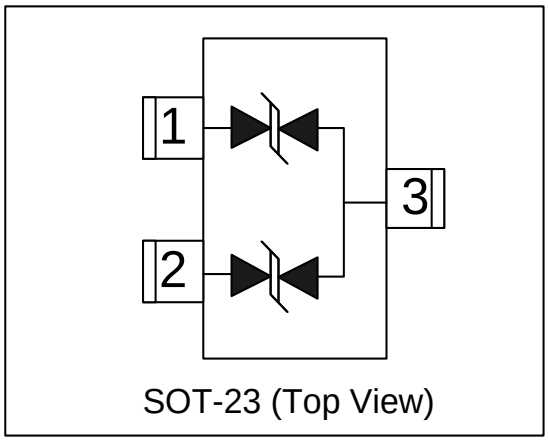
Applications

- 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

Circuit Diagram



Schematic & PIN Configuration

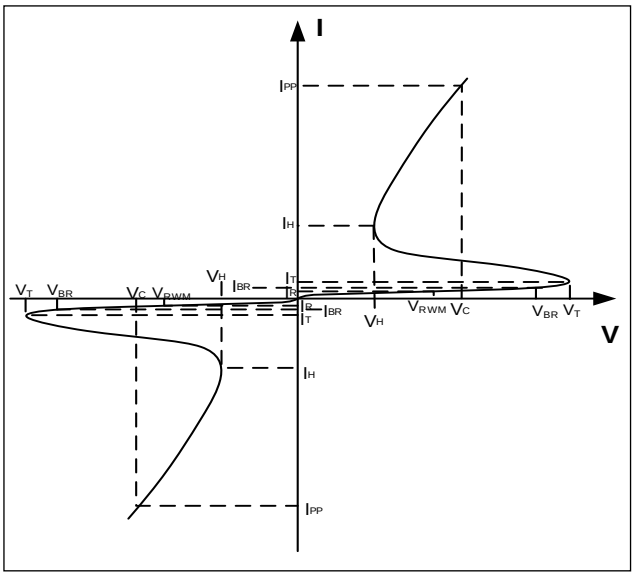


Absolute Maximum Rating

Rating	Symbol	Conditions	Value	Units
Peak Pulse Current	I_{PP}	tp = 8/20μs	2	A
electrostatic discharge voltage	V_{ESD}	IEC 61000-4-2; contact discharge	30	kV
		ISO 10605; contact discharge; C = 150 pF; R = 330 Ω	30	kV
		ISO 10605; contact discharge; C = 330 pF; R = 330 Ω	18	kV
		1000 contact discharges (IEC 61000-4-2); OPEN Alliance specification	15	kV
Operating Temperature	T_J		-55 to + 150	°C
Storage Temperature	T_{STG}		-55 to +150	°C

Electrical Parameters

Symbol	Parameter
I_{PP}	Reverse Peak Pulse Current
V_C	Clamping Voltage
V_{RWM}	Reverse Stand-Off Voltage
I_R	Reverse Leakage Current
V_{BR}	Reverse Breakdown Voltage
I_{BR}	Reverse Breakdown Current
V_T	Reverse Trigger Voltage
I_T	Reverse Trigger Current
V_H	Reverse Holding Voltage
I_H	Reverse Holding current



Electrical Characteristics(T=25℃ unless otherwise noted)

WE7218WT-AT

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				24	V
Reverse Holding Voltage	V_H	t_p=100ns	28	34		V
Reverse Trigger Voltage	V_T	t_p=100ns	100	114		V
Reverse Leakage Current	I_R	V_{RWM}=24V			100	nA
Dynamic Resistance[1,2]	R_{DYN}	TLP=0.2/100ns		0.4		Ω
ESD Clamping Voltage[1]	V_C	I_{PP} = 4A, tp = 0.2/100ns (TLP)		35		V
ESD Clamping Voltage[1]	V_C	I_{PP} = 16A, tp = 0.2/100ns (TLP)		40		V
Junction Capacitance	C_j	Pin 1 to 3 and Pin 2 to 3 V_R = 0V, f = 1MHz		1.6	2	pF

Notes：1、TLP Setting：t_p=100ns, t_r=0.2ns, I_{TLP} and V_{TLP} sample window:t_1=70ns to t_2=90ns.
2、Dynamic resistance calculated from I_{PP}=4A to I_{PP}=16A using “Best Fit”.

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

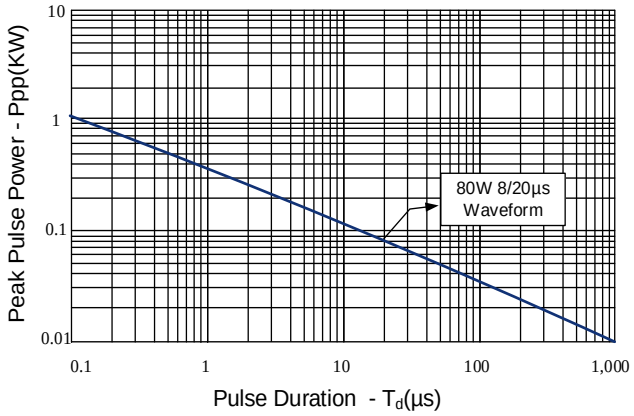


Figure 2: Power Derating Curve

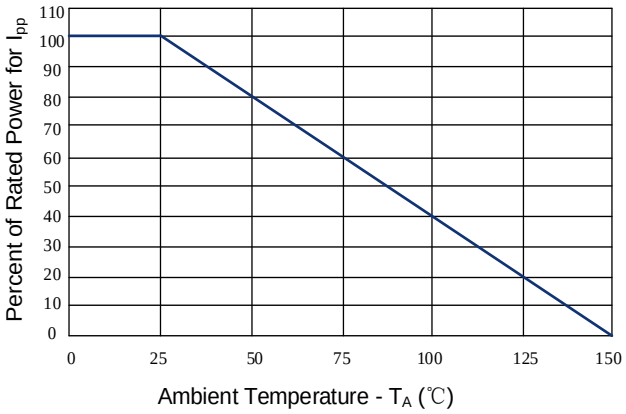


Figure 3: Normalized Junction Capacitance vs. Reverse Voltage

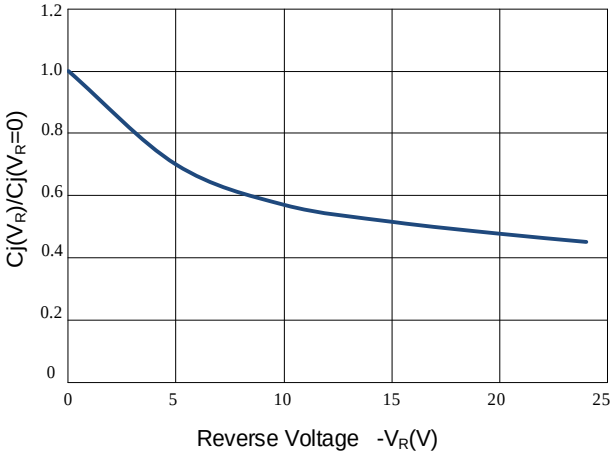


Figure 4: TLP Positive I-V Curve

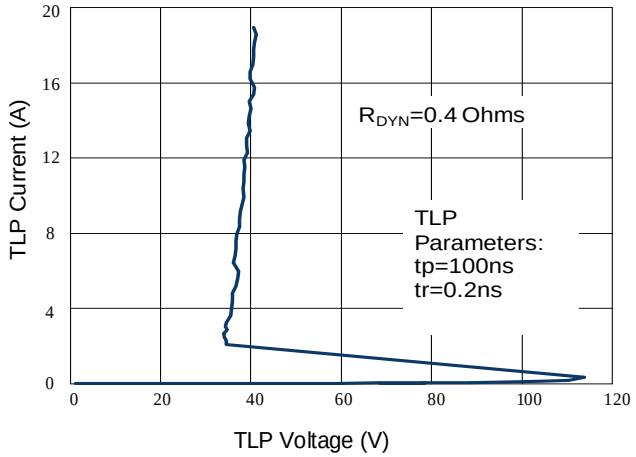


Figure 5: TLP Negative I-V Curve

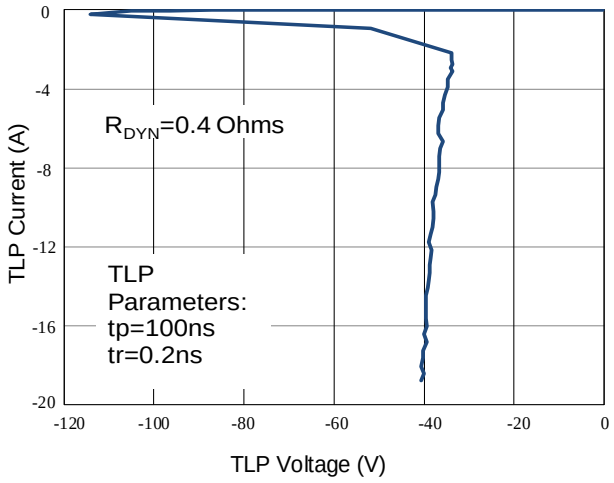
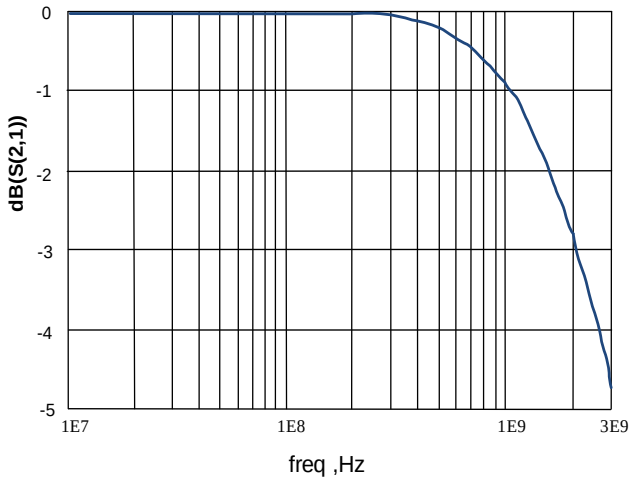
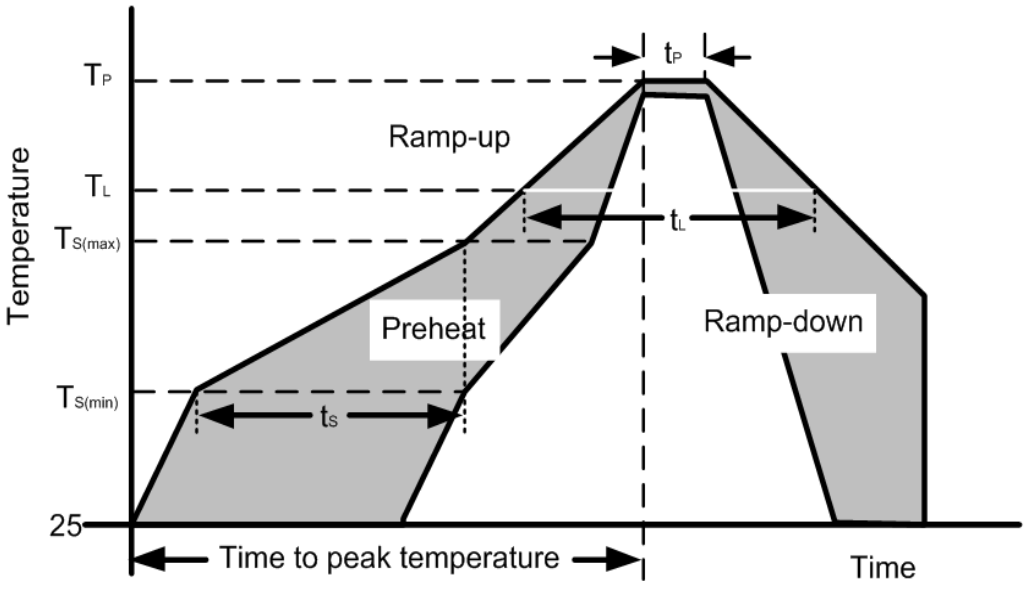


Figure 6: Insertion loss



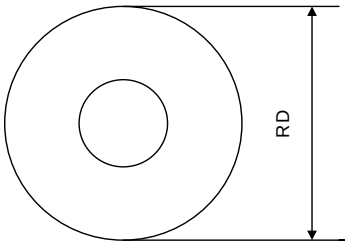
Soldering Parameters

Reflow Condition		Pb – Free assembly
Pre Heat	Temperature Min ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (ts)	60 – 190 secs
Average ramp up rate (Liquidus Temp) (T_L) to peak		5°C/second max
$T_{S(max)}$ to T_L——Ramp-up Rate		5°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Temperature (t_L)	60 – 150 seconds
Peak Temperature (T_P)		260+0/-5 °C
Time within actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		5°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max.
Do not exceed		280°C

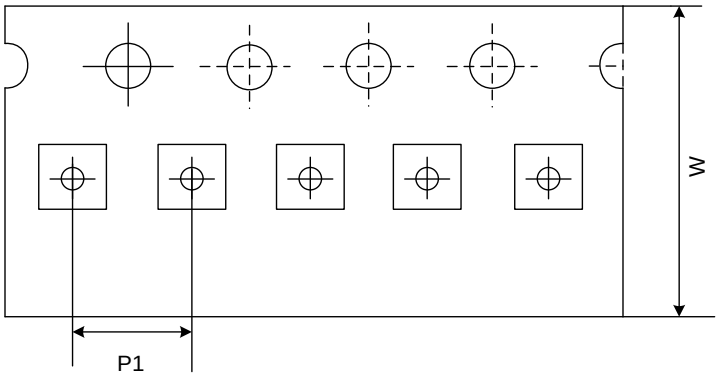


Tape And Reel Information

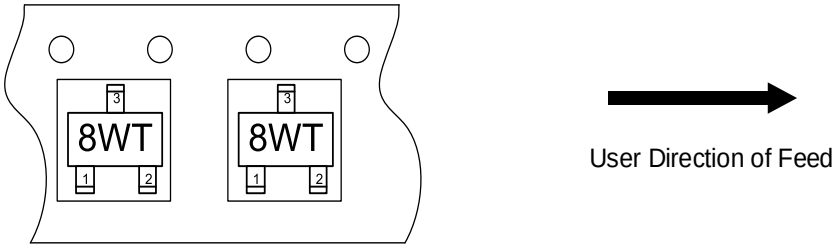
Reel Dimensions



Tape Dimensions



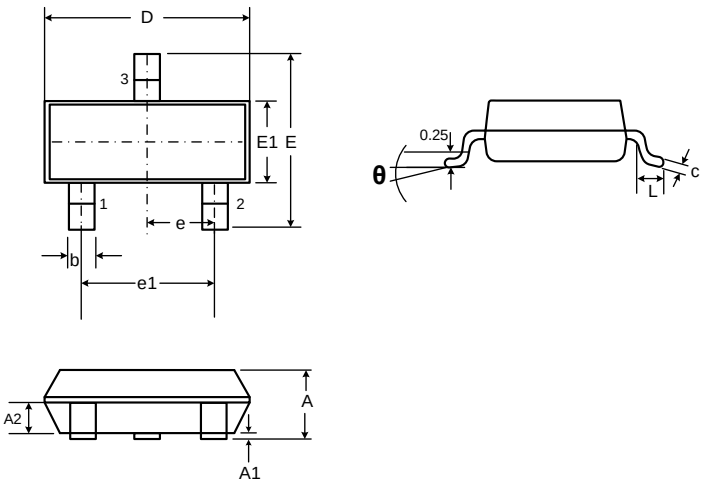
Quadrant Assignments For PIN1 Orientation In Tape

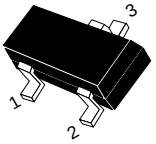


RD	Reel Dimensions	7 inch
W	Overall width of the carrier tape	8 mm
P1	Pitch between successive cavity centers	4mm

Outline Drawing – SOT-23

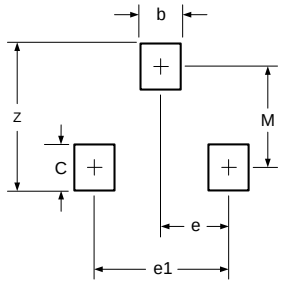
PACKAGE OUTLINE





SOT-23

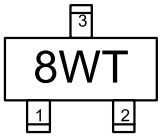
DIMENSIONS				
SYMBOL	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.90	1.15	0.035	0.045
A1	0.00	0.10	0.000	0.004
A2	0.60	0.70	0.024	0.028
b	0.30	0.50	0.012	0.020
c	0.08	0.15	0.003	0.006
D	2.80	3.00	0.110	0.118
E	2.25	2.55	0.089	0.100
E1	1.20	1.40	0.047	0.055
e	0.95 BSC		0.037 BSC	
e1	1.80	2.00	0.071	0.079
L	0.30	0.50	0.012	0.020
θ	0	8°	0	8°



DIMENSIONS		
DIM	INCHES	MILLIMETERS
M	0.0795	2.02
C	0.0315	0.80
Z	0.111	2.82
e	0.037 BSC	0.95 BSC
e1	0.075 BSC	1.9 BSC
b	0.0315	0.80

Notes:
Controlling Dimension: Millimeter.

Marking Codes

Part Number	WE7218WT-AT
Marking Code	

Package Information

Qty：3k/Reel

CONTACT INFORMATION

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