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TPMMBZ27VALT1G
24V TVS Diode Array

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Features

- 150 Watts peak pulse power (tp = 8/20μs)
- Transient protection for high speed data lines to
  IEC 61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
  IEC 61000-4-4 (EFT) 40A (5/50ns)
- Working voltages : 24V
- Protects one bidirectional line or two unidirectional lines
- Low operating and clamping voltages
- Solid-state silicon avalanche technology

Mechanical Characteristics

- Package: SOT23
- Lead Finish: Matte Tin
- UL Flammability Classification Rating 94V-0
- Pb-Free, Halogen Free, RoHS/WEEE Compliant

RoHS

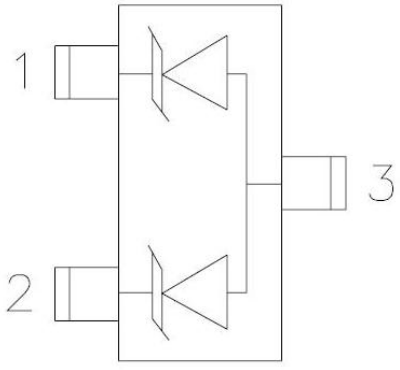
Applications

- USB Power & Data Line Protection
- Monitors and Flat Panel Displays
- I²C Bus Protection
- Portable Instrumentation
- Set Top Box

Ordering Information

Part Number	Qty per Reel	Reel Size
TPMMBZ27VALT1G	3000	7″

Dimensions and Pin Configuration



Circuit and Pin Schematic

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	180	W
Peak Pulse Current (8/20μs)	I_{PP}	3	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	±30 ±30	kV
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	Conditions	Min	Typ	Max	Unit
Reverse working voltage	V_{RWM}				24	V
Reverse breakdown voltage	V_{BR}	I_T=1mA	26		32	V
Reverse leakage current	I_R	V_{RWM}=24V		0.01	1.0	μA
Clamping voltage	V_C	I_{PP}=3A,t_P=8/20μs		45	62	V
Junction capacitance	C_J	V_{RWM}=0V, f=1MHz		20		pF

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PROTECTION PRODUCTS
Typical charateristics

Fig1. 8/20μs Pulse Waveform

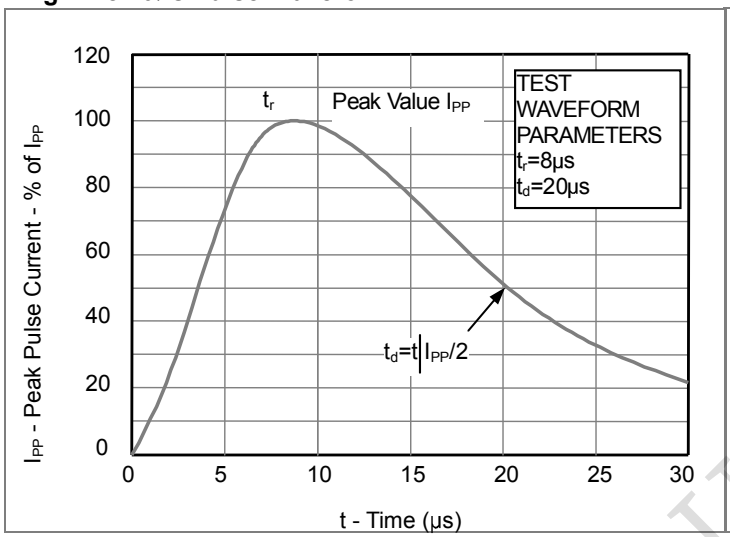


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

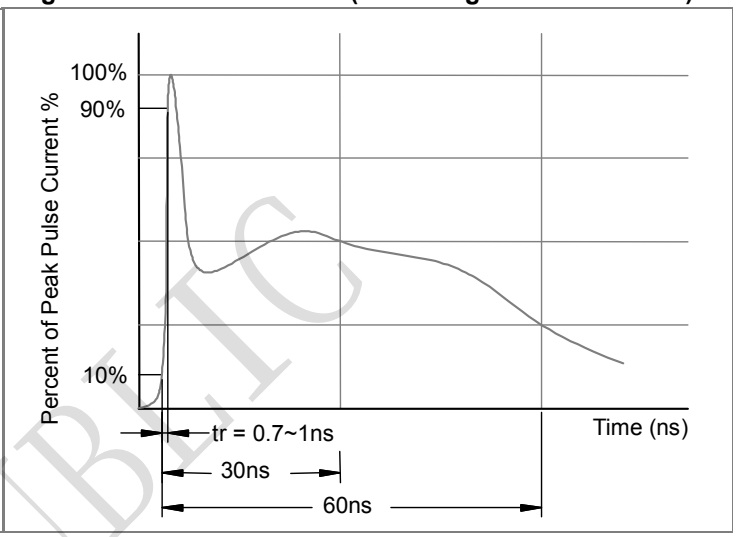
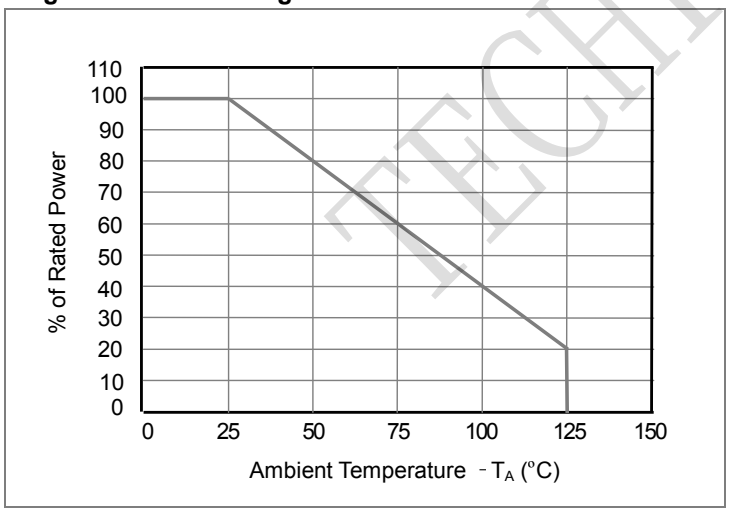


Fig3. Power Derating Curve



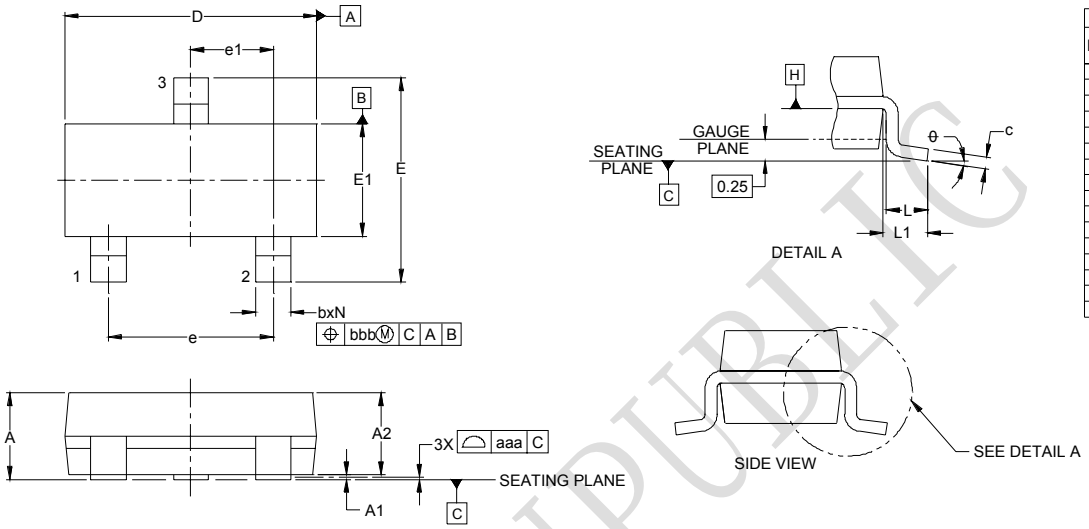
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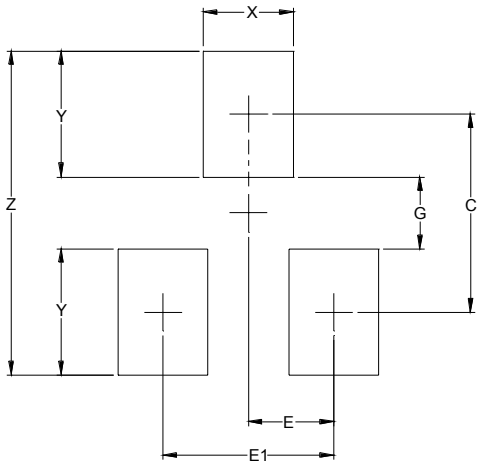
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Outline Drawing - SOT23



DIM	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	.035	-	.044	0.89	-	1.12
A1	.000	-	.004	0.01	-	0.10
A2	.035	.037	.040	0.88	0.95	1.02
b	.012	-	.020	0.30	-	0.51
c	.003	-	.007	0.08	-	0.18
D	.110	.114	.120	2.80	2.90	3.04
E	.082	.093	.104	2.10	2.37	2.64
E1	.047	.051	.055	1.20	1.30	1.40
e	.075			1.90 BSC		
e1	.037			0.95 BSC		
L	.015	.020	.024	0.40	0.50	0.60
L1	.022			(0.55)		
N	3			3		
θ	0°	-	8°	0°	-	8°
aaa	.004			0.10		
bbb	.008			0.20		

Land Pattern - SOT23



DIMENSIONS		
DIM	INCHES	MILLIMETERS
C	(.087)	(2.20)
E	.037	0.95
E1	.075	1.90
G	.031	0.80
X	.039	1.00
Y	.055	1.40
Z	.141	3.60

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