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台舟电子

MMBZ27VALT1G

Dual Common Anode zeners for ESD Protection

www.sot23.com.tw

Features

- 150 Watts peak pulse power (tp = 8/20μs)
- Transient protection for high speed data lines to
  IEC 61000-4-2 (ESD) ± 30kV (air), ± 30kV (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

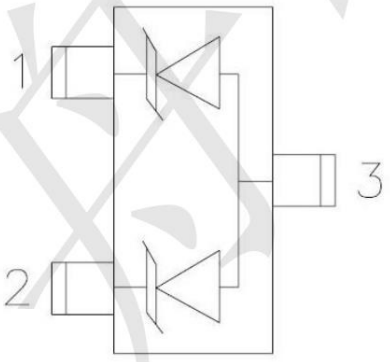
Mechanical Characteristics

- Package: SOT23
- Lead Finish: Matte Tin
- UL Flammability Classification Rating 94V-0
- Pb-Free, Halogen Free, RoHS/WEEE Compliant
- Shipping Qty :3000pcs/7Inch Tape & Reel

Applications

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

Dimensions and Pin Configuration



Circuit and Pin Schematic

Marking:27A

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

Parameter	Symbol	Value	Unit
Peak Pulse Power(8/20μs)	Ppk	150	W
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	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			24	V	
Breakdown Voltage	V_{BR}	26.7			V	I_T = 1mA
Reverse Leakage Current	I_R		0.01	0.1	μA	V_{RWM} = 15V
Clamping Voltage	V_C			24	V	I_{PP} = 1A (8 x 20μs pulse)
Clamping Voltage	V_C			60	V	I_{PP} = 3A (8 x 20μs pulse)
Peak Pulse Current	I_{PP}			3	A	t_P=8/20μs
Junction Capacitance	C_J			30	pF	VR=0, f=1MHz, Pin 1 to Pin 3 or Pin 2 to Pin 3

Fig1. 8/20μs Pulse Waveform

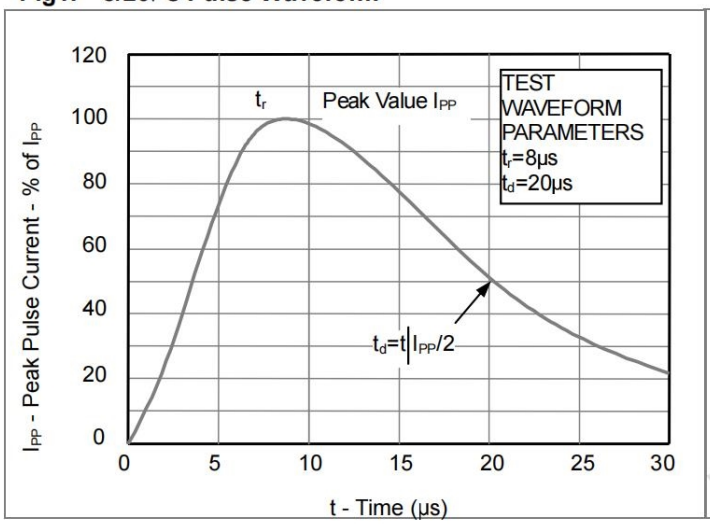


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

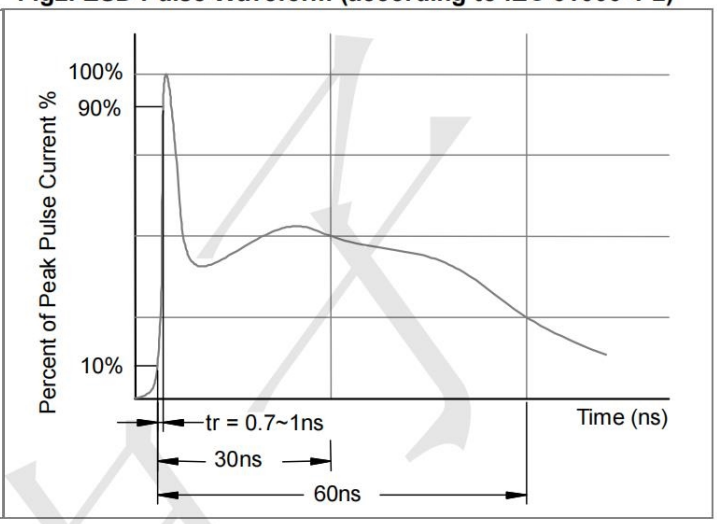
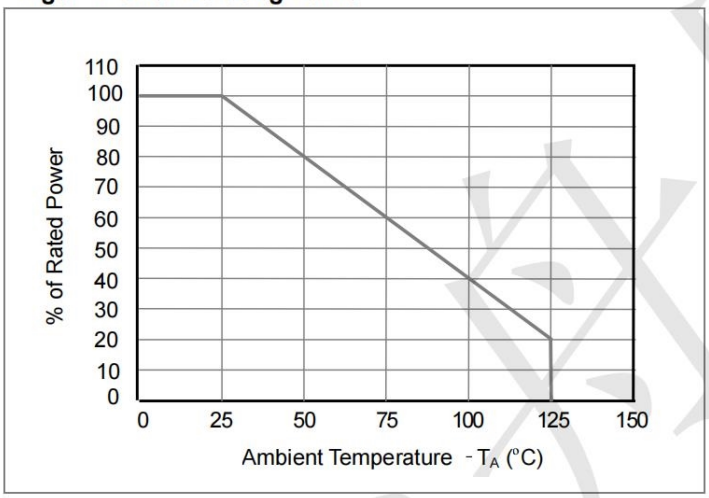
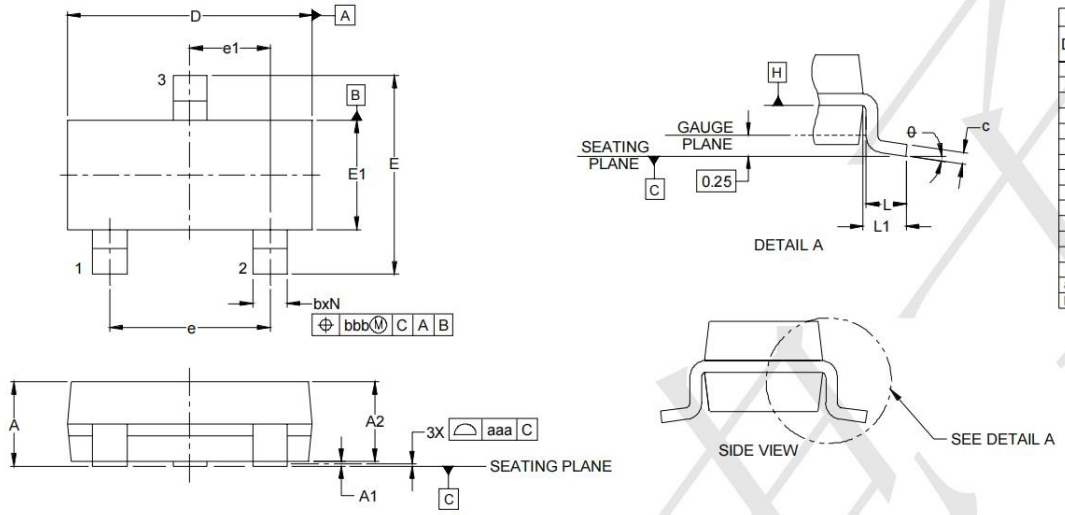


Fig3. Power Derating Curve

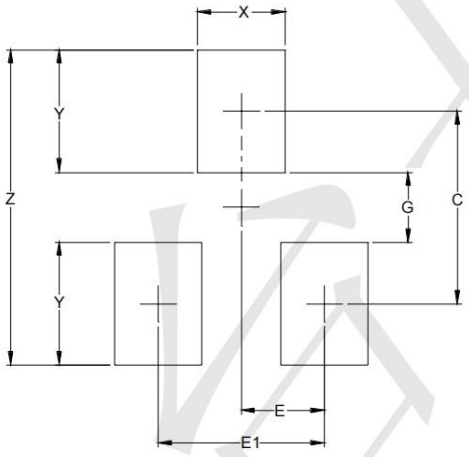


Outline Drawing - SOT23



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



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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