



Features

- ◆ Transient protection for high speed data lines to IEC 61000-4-2 (ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact) IEC 61000-4-4 (EFT) 40A (5/50ns)
- ◆ Working voltages : 3V
- ◆ Protects one bidirectional line or
- ◆ Low operating and clamping voltages
- ◆ Solid-state silicon avalanche technology

Ordering Information

Part Number	Qty per Reel	Reel Size
ESDA5V3L	3000	7"

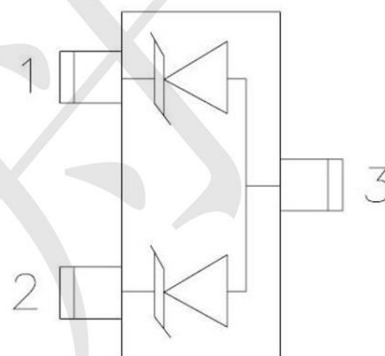
Mechanical Characteristics

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

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



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

Parameter	Symbol	Value	Unit
Peak Pulse Current (8/20μs)	Ipp	7	A
ESD per IEC 61000-4-2 (Air)	VESD	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

Electrical Characteristics (TA=25°C unless otherwise specified)

Type	IR(μA)	VBR(V)IT		It	VC(V)	Ipp(A)	C(pf)
	Vrwm	Min	Max	mA	Max Ipp		
ESDA5V3L	Max	4.8	6.0	1.0	Max	Max	Max
	1.0				13.5	7.4	70



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Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)

Fig1. 8/20 μs Pulse Waveform

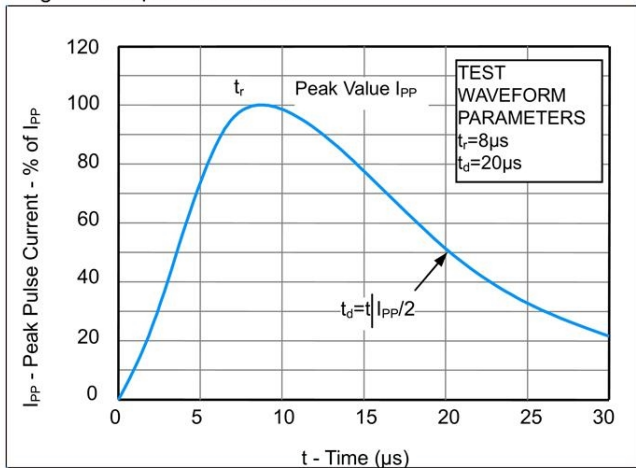


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

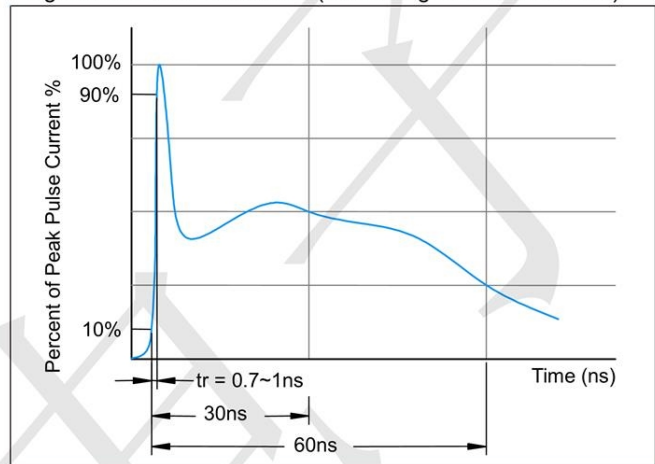


Fig3. Power Derating Curve

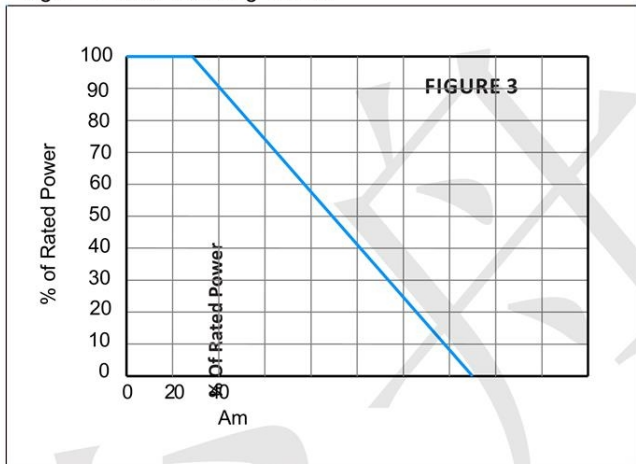
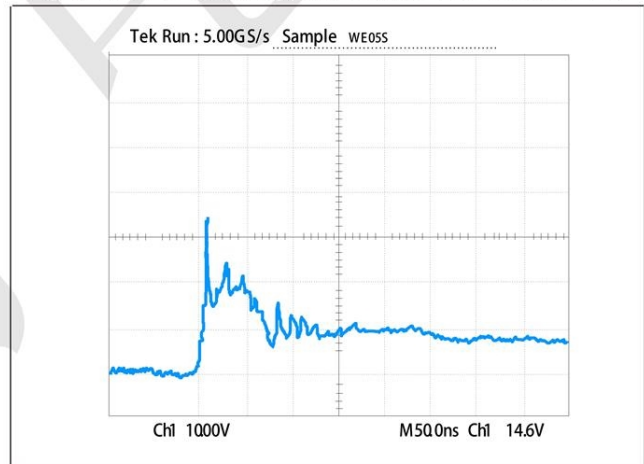


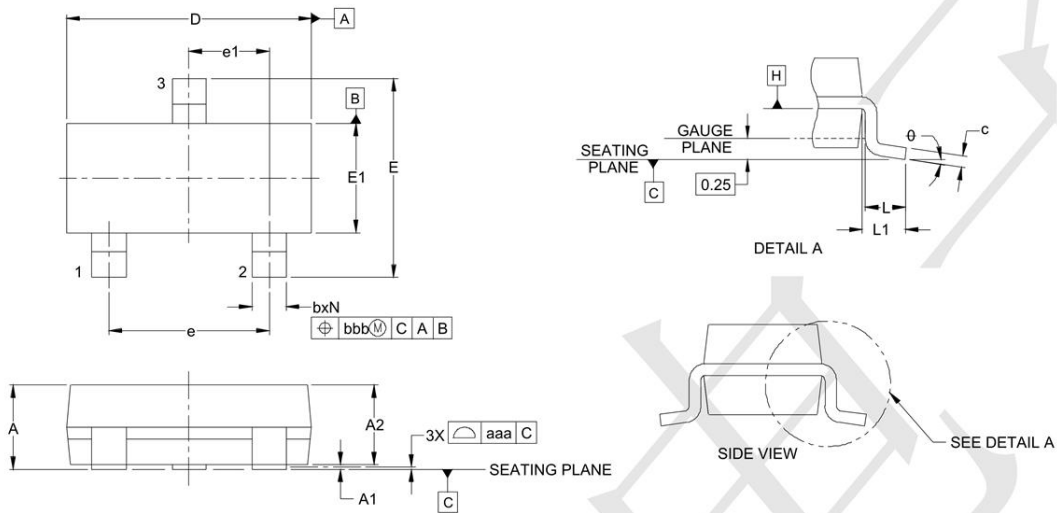
Figure 4: ESD Clamping (8kV Contact per IEC 61000-4-2)





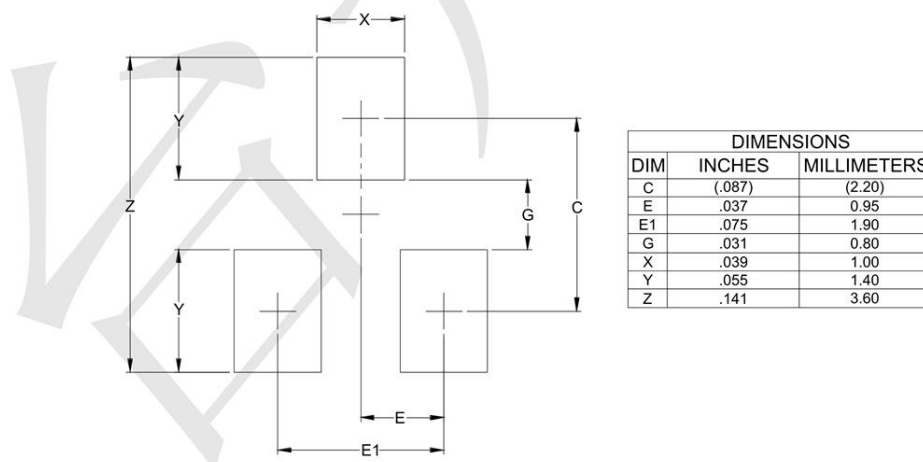
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Outline Drawing - SOT23



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