

Transient Voltage Suppressors Array for ESD Protection

SE05T5D15GA

Description

The SE05T5D15GA is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.

Feature

- ◆ 100 Watts Peak Pulse Power per Line (tp=8/20µs)
- ◆ Protects up to four / five I/O lines
- ◆ Ultra-small package (1.6X1.6X0.55mm), requires less than 2.9mm² of PCB area
- ◆ Working voltages : 5V
- ◆ Low leakage current
- ◆ IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- ◆ IEC61000-4-4 (EFT) 40A (5/50ns)

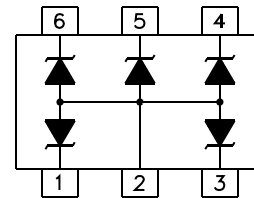
Applications

- ◆ Cellular Handsets & Accessories
- ◆ Cordless Phones
- ◆ Personal Digital Assistants (PDA's)
- ◆ Portable Instrumentation
- ◆ Notebooks & Handhelds
- ◆ Digital Cameras
- ◆ MP3 Players

SOT-563



Functional Diagram



Mechanical Characteristics

- ◆ JEDEC SOT-563 Package
- ◆ Molding Compound Flammability Rating : UL 94V-0
- ◆ Weight 3.0 Milligrams (Approximate)
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Reel Size : 7 inch
- ◆ Lead Finish : Lead Free

Mechanical Characteristics

Symbol	Parameter	Value	Units
P _{PP}	Peak Pulse Power (tp=8/20µs waveform)	100	W
T _L	Lead Soldering Temperature	260 (10sec)	°C
T _{STG}	Storage Temperature Range	-55 to +150	°C
T _{OP}	Operating Temperature Range	-55 to +150	°C
	IEC61000-4-2 (ESD)	Air Discharge ±15 Contact Discharge ±8	KV
	IEC61000-4-4 (EFT)	40	A

Transient Voltage Suppressors Array for ESD Protection

SE05T5D15GA

Electrical Characteristics (@ 25°C Unless Otherwise Specified)

Part Number	V _{RWM} (V) (Max.)	V _B (V) (Min.)	I _T (mA)	V _C @1A (Max.)	V _C		I _R (μA) (Max.)	C (pF) (Typ.)
					(Max.)	(@A)		
SE05T5D15GA	5	6	1	9.8	12	4	1	0.6

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

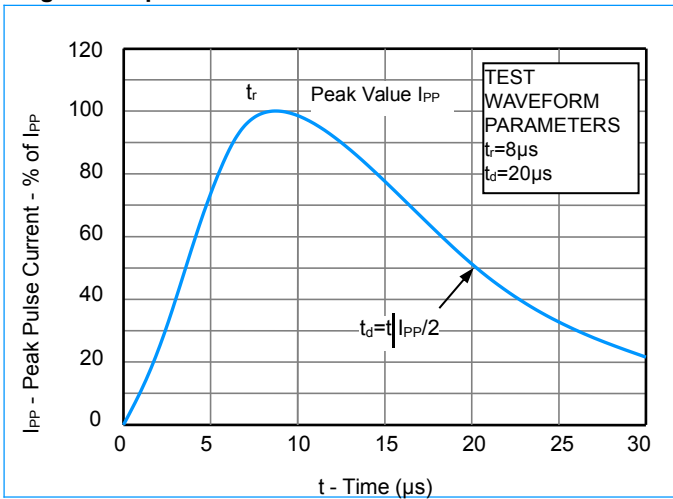


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

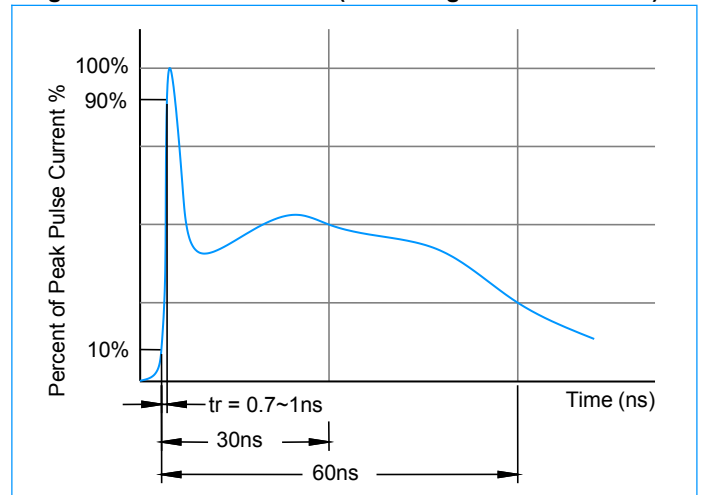
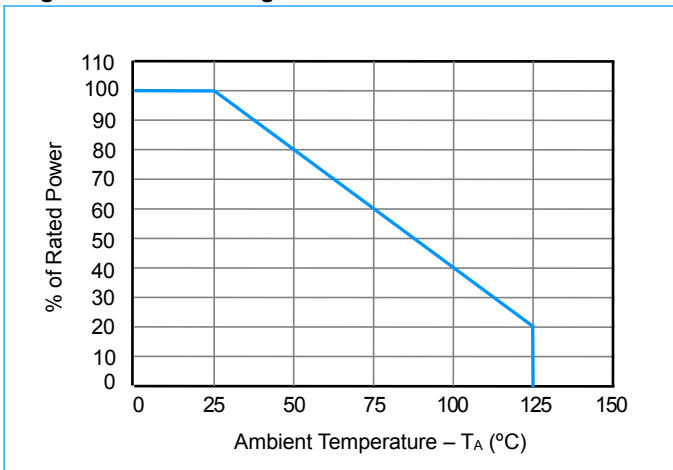


Fig3. Power Derating Curve



Transient Voltage Suppressors Array for ESD Protection

SE05T5D15GA

Characteristic Curves

Fig4. ESD Clamping (+8KV Contac per IEC61000-4-2)

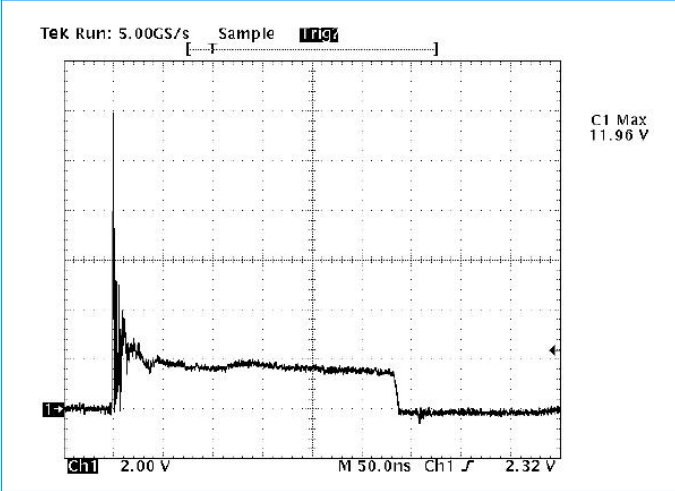
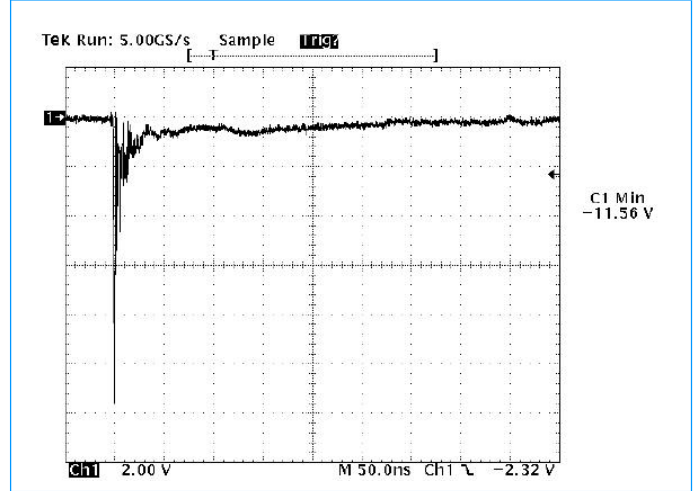
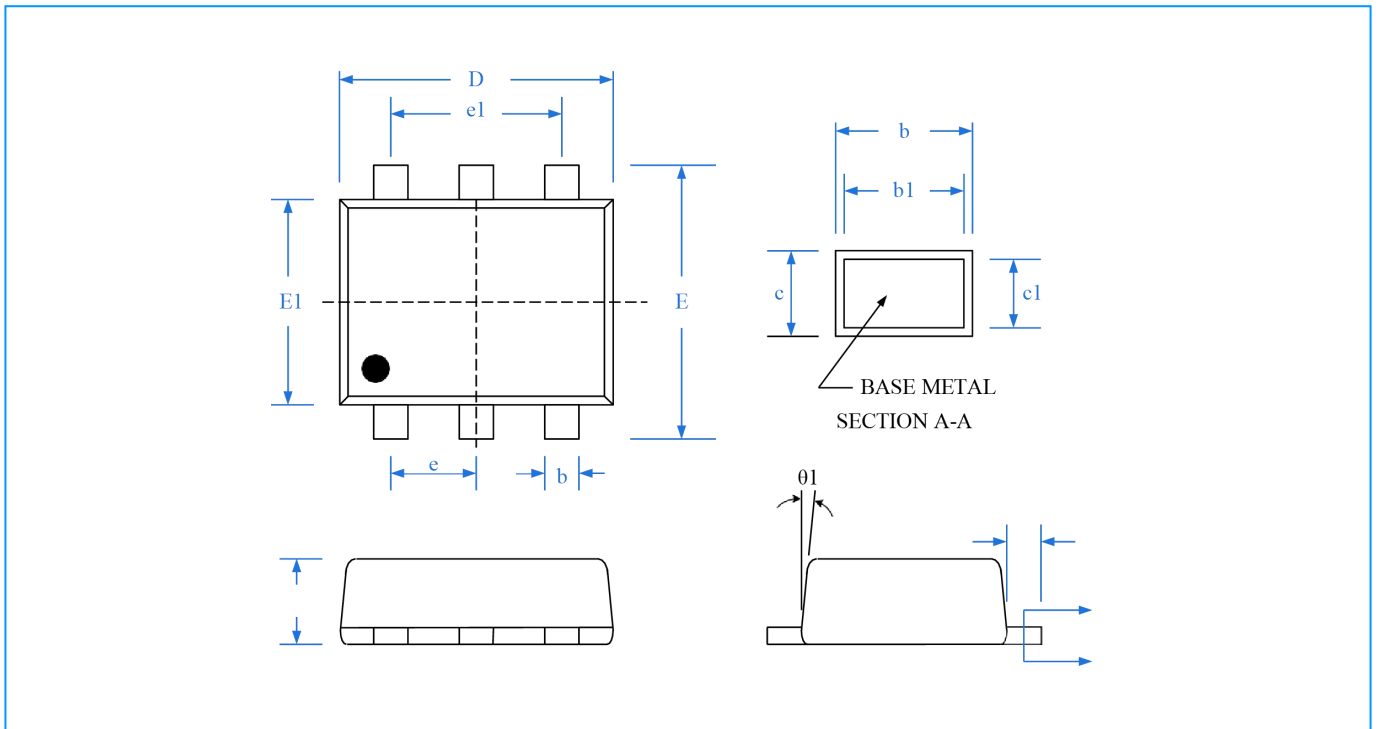


Fig5. ESD Clamping (-8KV Contac per IEC61000-4-2)



Package Outline

- ◆ SOT-563 Package
- ◆ Plastic surface-mounted package
- ◆ MSL-3Level



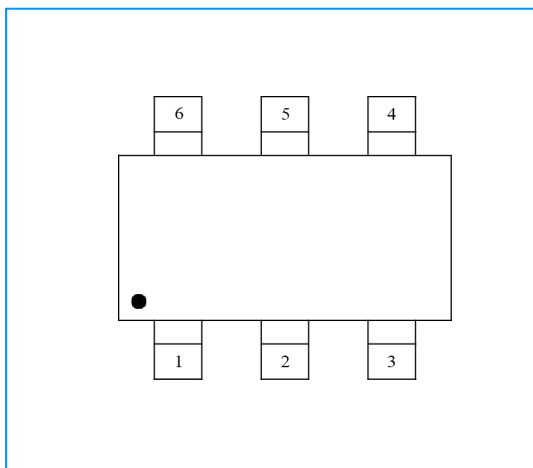
Transient Voltage Suppressors Array for ESD Protection

SE05T5D15GA

SOT-363 Package Outline & Dimensions

Symbol	Dimensions (mm)			Dimensions (Inches)		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
A	0.50	0.55	0.60	0.020	0.022	0.024
b	0.17	-	0.27	0.007	-	0.011
b1	0.17	0.20	0.23	0.007	0.008	0.009
c	0.08	-	0.18	0.003	-	0.007
c1	0.08	0.10	0.15	0.003	0.004	0.006
D	1.60 BSC			0.063 BSC		
E	1.50	1.60	1.70	0.059	0.063	0.067
E1	1.20 BSC			0.047 BSC		
e	0.50 BSC			0.020 BSC		
e1	1.00 BSC			0.040 BSC		
θ1	0°	-	10°	0°	-	10°
L1	0.14	0.20	0.27	0.006	0.008	0.011

Marking Codes



Ordering Information

Part Number	Working Voltage	Quantity Per Reel	Reel Size
SE05T5D15GA	5V	3,000	7 Inch