



Transient Voltage Suppressors for ESD Protection

Low Capacitance

Features

- ◆ Working voltages : 5V
- ◆ Low capacitance: 15pF
- ◆ Low leakage current: 0.1uA @ V_{RWM}
- ◆ Low clamping voltage
- ◆ Response Time is < 1 ns

Applications

- ◆ Cell Phone Handsets and Accessories
- ◆ Portable Instrumentation
- ◆ Notebooks, Desktops, and Servers
- ◆ Digital Cameras/MDDI Ports
- ◆ PCI Express

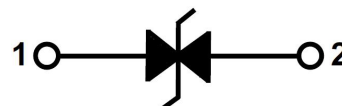
Mechanical Characteristics

- ◆ DFN0603-2L package
- ◆ Molding Compound Flammability Rating: UL 94V-0
- ◆ Quantity Per Reel: 10,000 pcs
- ◆ Reel size: 7 inch
- ◆ Marking Code: Y

DFN0603



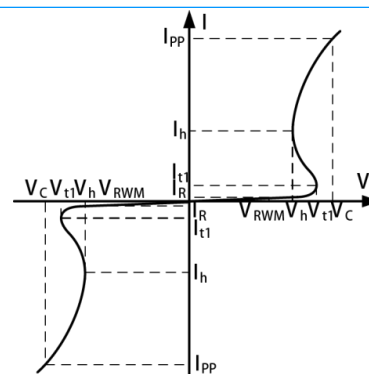
Functional Diagram

Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Value	Units
T_J	Operating Temperature Range	-55 to +150	$^\circ\text{C}$
T_{STG}	Storage Temperature Range	-55 to +150	$^\circ\text{C}$
V_{ESD}	ESD per IEC61000-4-2 (Air) ESD per IEC61000-4-2 (Contact)	± 30 ± 30	kV
T_{LST}	Lead Soldering Temperature	260	$^\circ\text{C}$

I-V Curve Characteristics

Symbol	Parameter
I_{PP}	Maximum Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{t1}	Trigger Voltage
I_{t1}	Trigger Current @ V_{t1}
V_h	Holding Voltage
I_h	Holding Current @ V_h



Bi-Directional TVS

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SE05N2S01HZ

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

Symbol	Conditions	Min.	Typ.	Max.	Units
V _{RWM}	--	--	--	5.0	V
I _R	V _{RWM} = 5V,T=25°C	--	--	1	μA
V _{BR}	I _T = 1mA	5.3	6.0	--	V
V _C	I _{PP} = 1A , t _P = 8/20μs	--	7	--	V
V _C	I _{PP} = 6A , t _P = 8/20μs	--	12	--	V
C _J	V _R = 0V, f = 1MHz	--	15	--	pF

Characteristic Curves

Fig1. 8/20 us Pulse Waveform

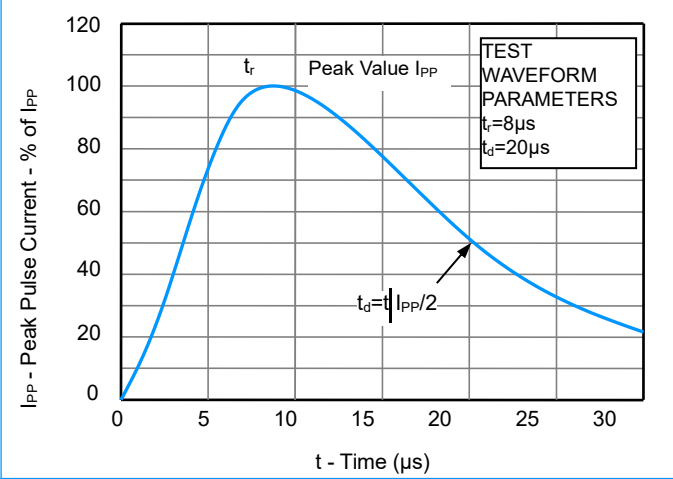


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

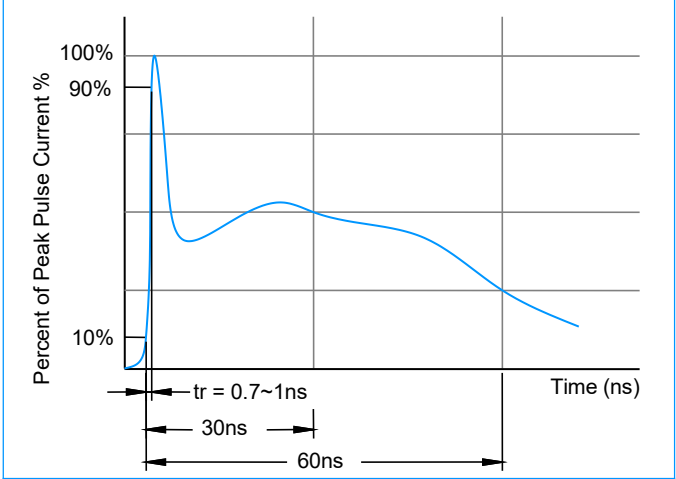


Fig4. Clamped +8 kV ESD Voltage Waveform

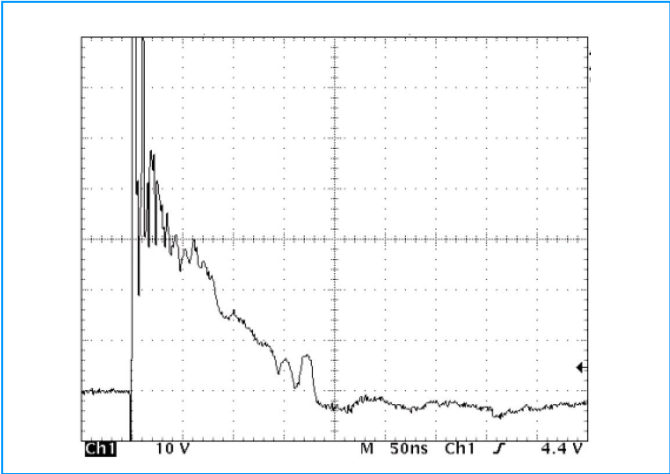
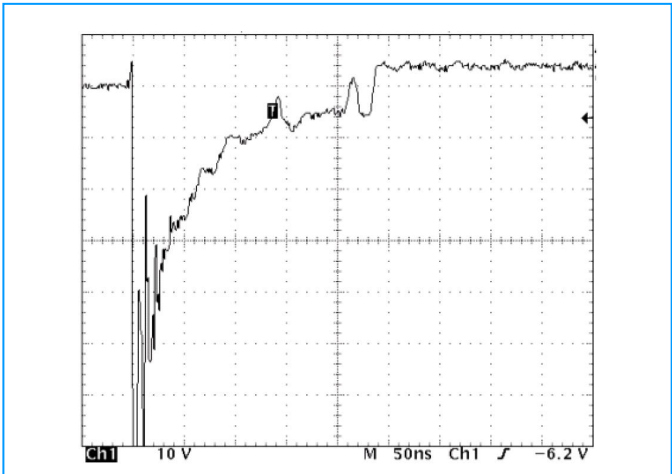


Fig5. Clamped -8 kV ESD Voltage Waveform



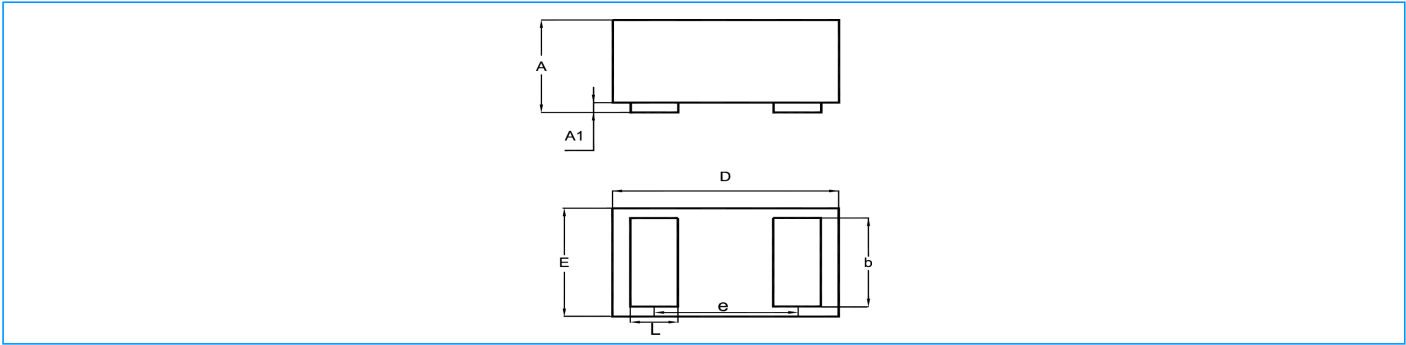
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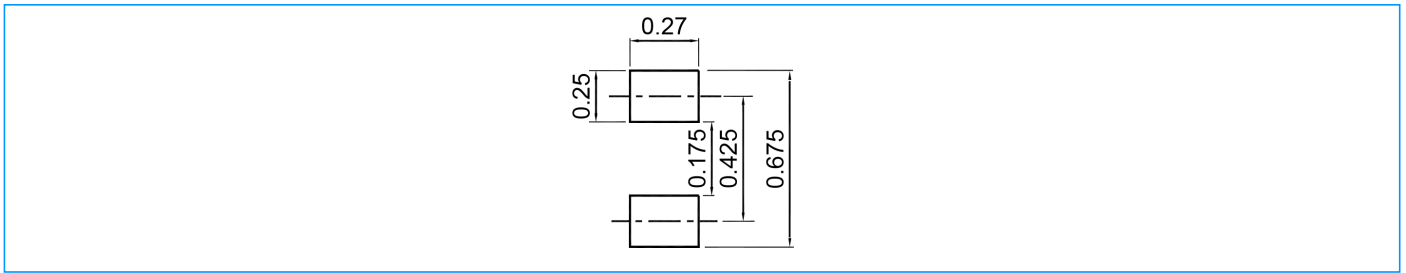
Package Outline

Plastic surface mounted package; 2 leads DFN0603

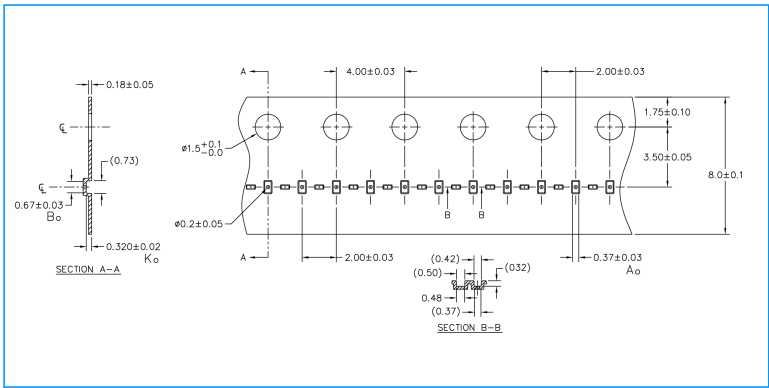


UNIT	A	A1	b	D	E	e	L
mm	0.27 0.33	0 0.025	0.21 0.29	0.57 0.65	0.28 0.35	0.355	0.14 0.22

Recommended Soldering Footprint



Tape and Reel Specification



A0	B0	K0
0.37 +/-0.03	0.67 +/-0.03	0.32+/-0.02mm