

Transient Voltage Suppressors for ESD Protection

SE03N2C01HL

Features

- ◆ Working voltage : 3.3V
- ◆ Low capacitance: 0.4pF (Typical)
- ◆ Low leakage current: 1.0 μ A @ V_{RWM}
- ◆ Low clamping voltage
- ◆ Response Time is < 1 ns

DFN0603



Applications

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

Functional Diagram



Mechanical Characteristics

- ◆ DFN0603-2L Package
- ◆ Molding Compound Flammability Rating : UL 94V-0
- ◆ Quantity Per Reel : 10,000pcs
- ◆ Reel Size : 7 inch

Absolute Maximum Rating

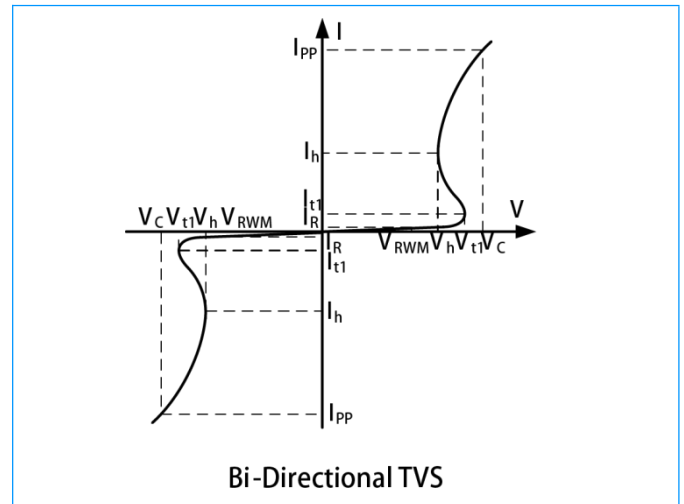
Symbol	Parameter	Value	Units
T_{LST}	Lead Soldering Temperature	260 (10 sec.)	$^{\circ}$ C
T_{STG}	Storage Temperature Range	-55 to +150	$^{\circ}$ C
T_{OPT}	Operating Temperature Range	-55 to +125	$^{\circ}$ C
V_{ESD}	ESD per IEC 61000-4-2(Air) ESD per IEC 61000-4-2 (Contact)	± 20 ± 15	KV

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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



Electrical Characteristics (@ $T_A=25^\circ\text{C}$ Unless Otherwise Specified)

Symbol	Test Condition	Minimum	Typical	Maximum	Units
V_{RWM}	--	--	--	3.3	V
I_R	$V_{RWM}=3.3\text{V}$, $T=25^\circ\text{C}$	--	--	1.0	μA
V_{BR}	$I_T = 1\text{mA}$	4.1	--	7.0	V
V_C	$I_{PP}=1\text{A}$, $t_p=8/20\mu\text{s}$	--	--	12	V
V_C	$I_{PP}=4\text{A}$, $t_p=8/20\mu\text{s}$	--	--	27	V
C_J	$V_R=0\text{V}$, $f=1\text{MHz}$	--	0.4	--	pF

Characteristic Curves

Fig1. 8/20 μs Pulse Waveform

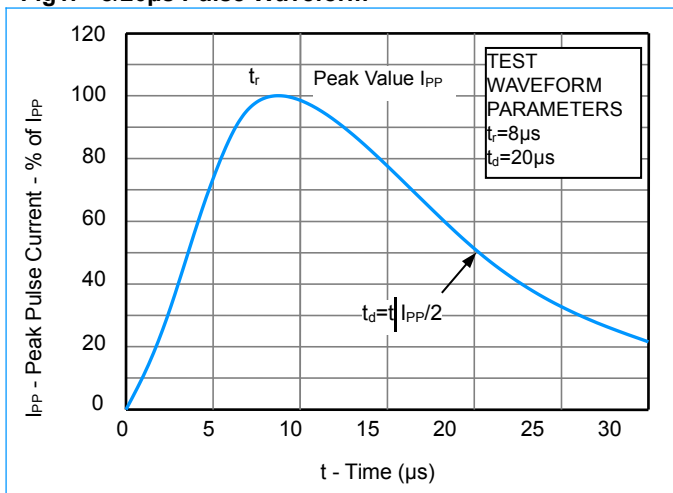
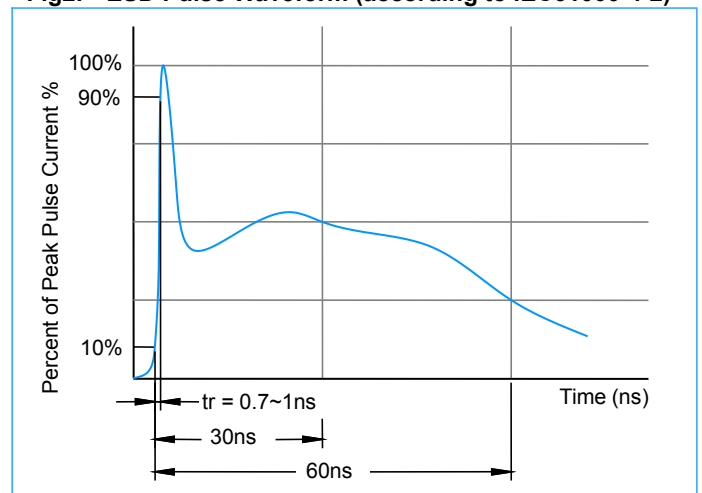


Fig2. ESD Pulse Waveform (according to IEC61000-4-2)



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Characteristic Curves (Continue)

Fig3. Clamped +8 kV ESD Voltage Waveform

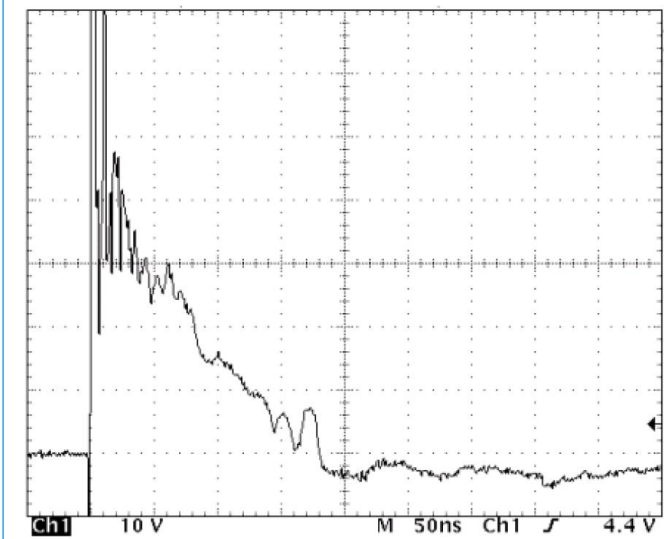
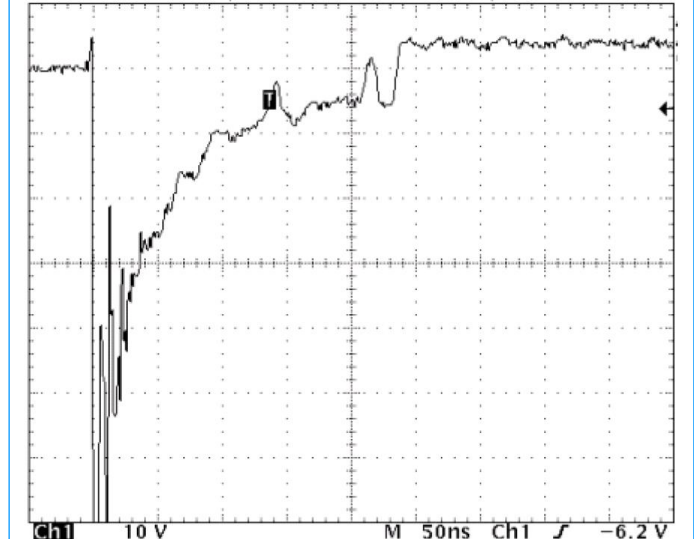
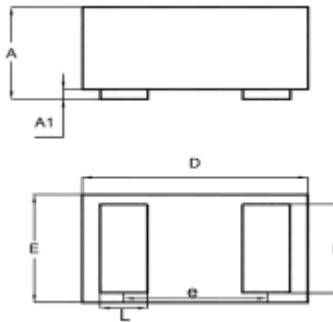


Fig4. Clamped -8 kV ESD Voltage Waveform



DFN0603-2L Package Outline & Dimensions

Plastic surface mounted package; 2 leads DFN0603

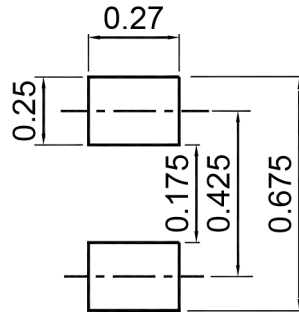


Unit		A	A1	b	D	E	e	L
mm	Min.	0.27	0.000	0.21	0.57	0.28	0.355	0.14
	Max.	0.33	0.025	0.29	0.65	0.35		0.22

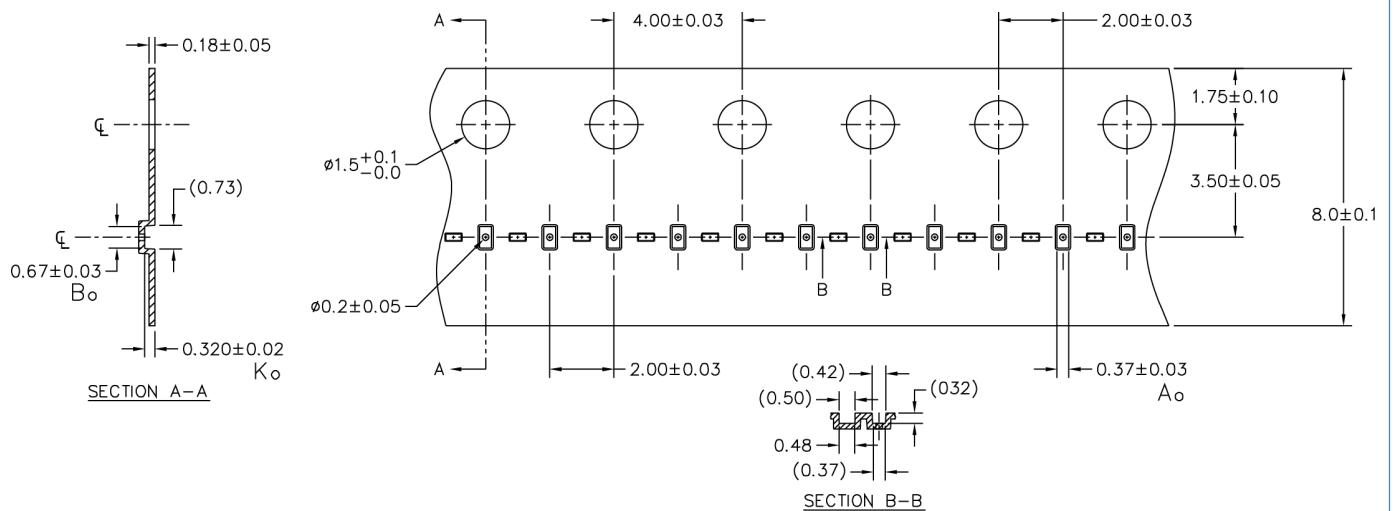
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Recommended Soldering Footprint (Unit: mm)



Tape and Reel Specification (Unit: mm)



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