

Transient Voltage Suppressors for ESD Protection

SE03N2S01GZ

Features

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

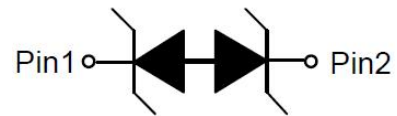
DFN0603



Applications

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

Pin Configuration



Mechanical Characteristics

- ◆ DFN0603 Package
- ◆ Molding Compound Flammability Rating : UL 94V-0
- ◆ Quantity Per Reel : 10,000pcs
- ◆ Reel Size : 7 inch
- ◆ Marking Code: 3D

Absolute Maximum Rating

Symbol	Parameter	Value	Units
I_{PP}	Peak Pulse Current ($t_P = 8/20\mu s$)	8	A
V_{ESD}	ESD according to IEC61000-4-2 air discharge	± 30	KV
	ESD according to IEC61000-4-2 contact	± 30	
T_L	Lead Soldering Temperature	260 (10 sec)	$^{\circ}C$
T_{OP}	Operating Temperature	-55 to +125	$^{\circ}C$
T_{STG}	Storage Temperature	-55 to +150	$^{\circ}C$

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Stand-Off Voltage	V_{RWM}	--	--	--	± 3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	3.6	4.1	5.0	V
Reverse Leakage Current	I_R	$V_{RWM} = \pm 3.3\text{V}$	--	--	1.0	μA
Clamping Voltage	V_{CL}	$I_{PP} = 5\text{A}, t_P = 8/20\mu\text{s}$	--	--	7.0	V
		$I_{PP} = 8\text{A}, t_P = 8/20\mu\text{s}$	--	--	10.0	V
Off State Junction Capacitance	C_J	$V_R = 0\text{V}, f = 1\text{MHz}$	--	13.0	--	pF

Characteristic Curves

Fig1. 8/20 μs Pulse Waveform

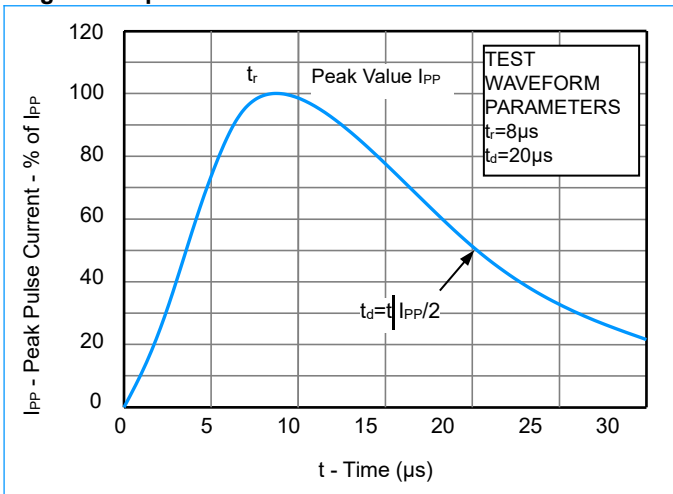


Fig2. ESD Pulse Waveform (according to IEC61000-4-2)

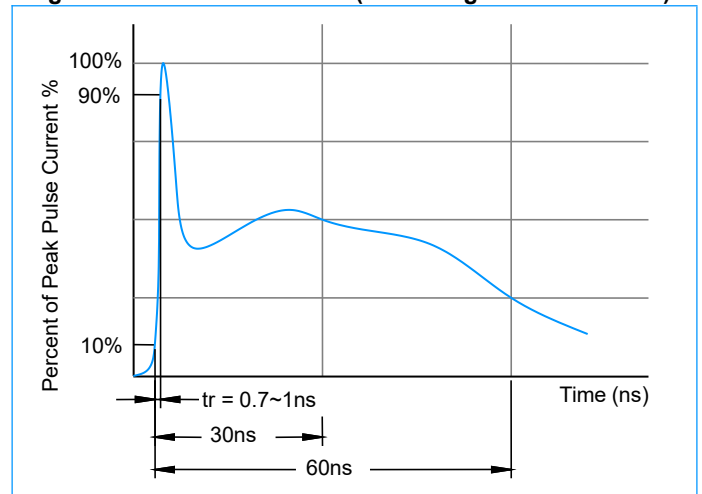


Fig3. Clamped +8 kV ESD Voltage Waveform

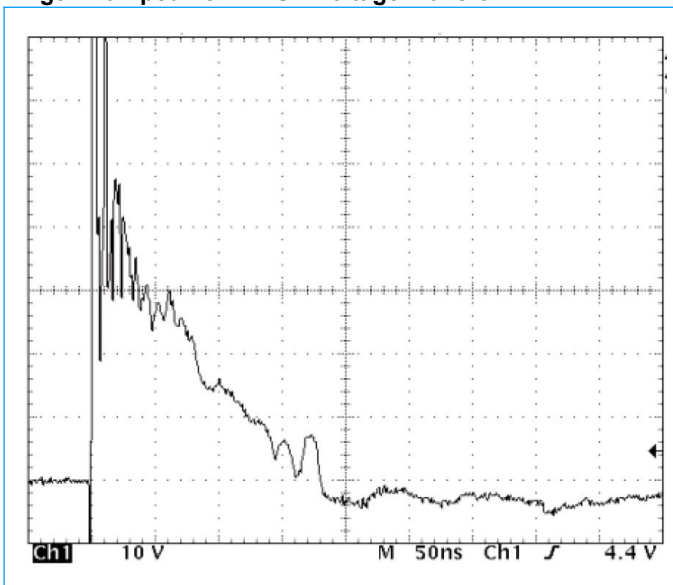
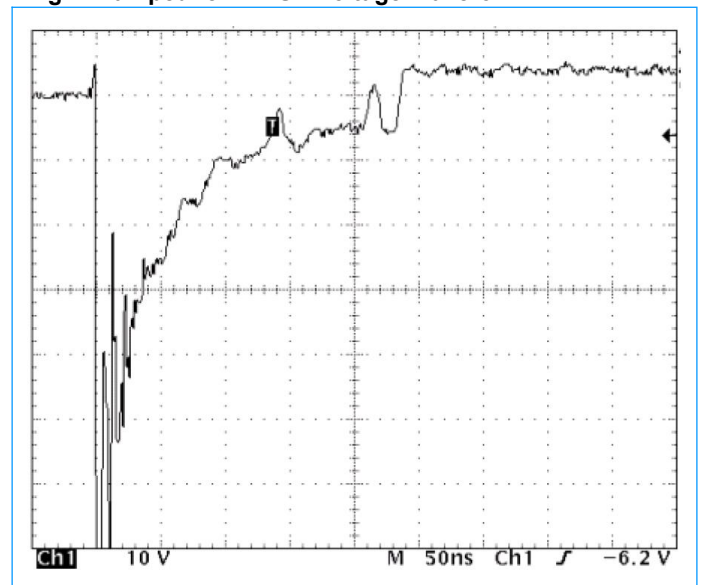


Fig4. Clamped -8 kV ESD Voltage Waveform

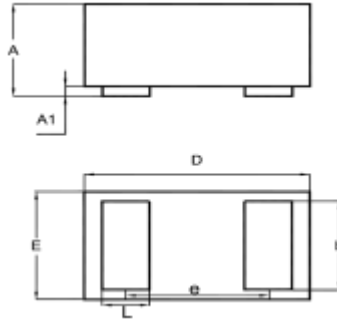


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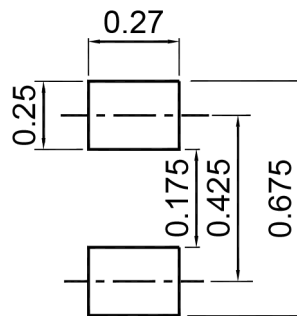
DFN0603-2L Package Outline & Dimensions

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

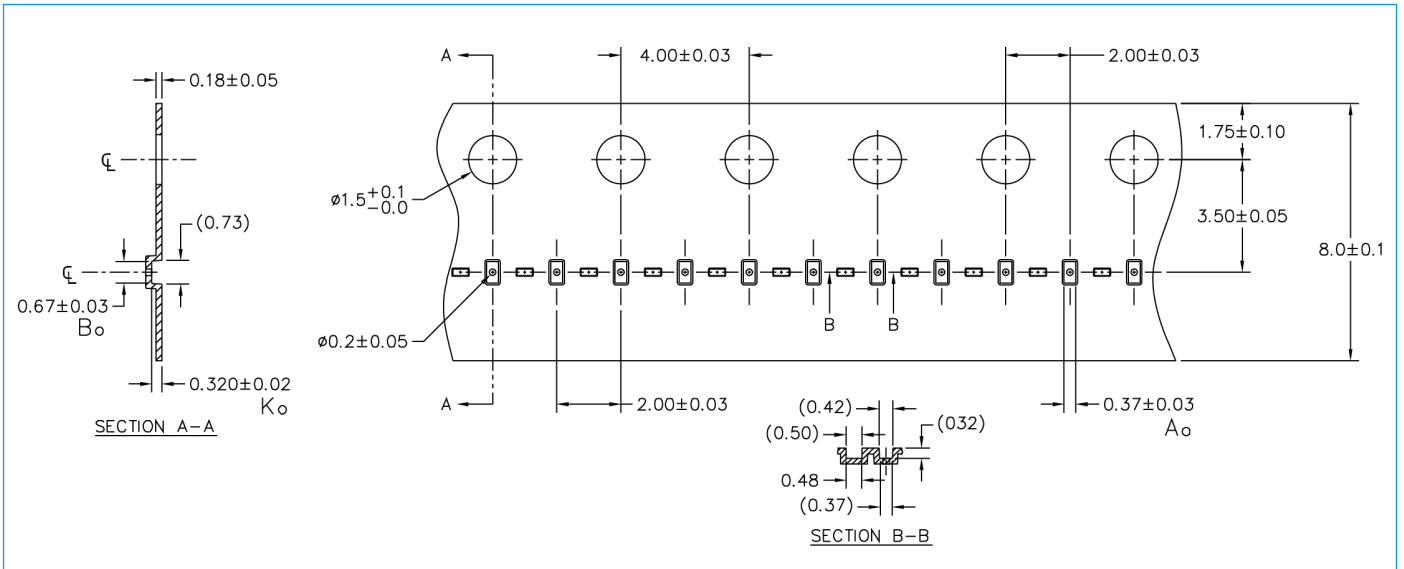
Recommended Soldering Footprint (Unit: mm)



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Tape and Reel Specification (Unit: mm)



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