

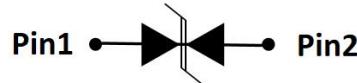


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MESD3V3SF06B

1. General Description

The MESD3V3SF06B Series is designed to protect voltage sensitive components from damage or latch-up due to ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD for board level. Because of its small size and bi-directional design, it is ideal for use in cellular phones, MP3 players, and portable applications that require audio line protection.



DFN0603-2L(Bottom View)

Circuit Diagram

2. Specification Features

- Small Body Outline Dimensions: nom 0.024" x 0.012" (0.6x0.3 mm).
- Low Body Height: nom 0.019" (0.5 mm)
- Low Capacitance 15 pF
- Low Clamping Voltage
- Reverse Working (Stand-off) Voltage: 3.3 V
- Low Leakage
- Response Time is Typically < 1 ns
- ESD Rating of Class 3 (> 16 kV) per Human Body Model
- IEC61000-4-2 Level 4 ESD Protection
- This is a Pb-Free Device

3. Application

- Mic and Audio date Port protect
- Cellular handsets and accessories
- Portable electronics
- Communication systems
- Computers and peripherals

4. Maximum Ratings

Rating		Symbol	Value	Unit
IEC 61000-4-2 (ESD)	Contact		±15	kV
ESD Voltage	Per Human Body Model		16	kV
	Per Machine Model		400	V
Peak Power Per 8 x 20μs Waveform		P _{PK}	80	W
Total Power Dissipation on FR-5① Board @ TA = 25°C		P _D	300	mW
Junction and Storage Temperature Range		T _J , T _{Stg}	-55 to +150	°C
Lead Solder Temperature - Maximum (10 Second Duration)		T _L	260	°C

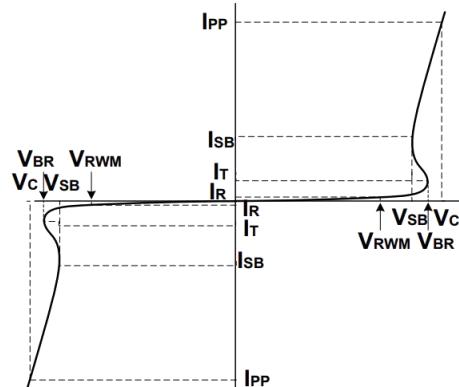
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Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Note1: FR-5 = 1.0*0.75*0.062inch (25.4*19.05*1.58mm)

5. Characteristics

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
I_T	Test Current
V_{BR}	Breakdown Voltage @ I_T
P_{PK}	Peak Power Dissipation
C	Max. Capacitance @ $V_R = 0$ and freq.=1 MHz



Parameter	Symbol	Test Condition	Min	Typ.	Max	Units
Reverse Working Voltage	V_{RWM}				3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_t = 1\text{mA}$	3.5		6.0	V
Reverse Leakage Current	I_R	$V_{RWM} = 3.3\text{V}$			1	μA
Clamping Voltage	V_C	$I_{PP} = 8\text{A}$, $t_p = 8/20\text{us}$			8	V
Junction Capacitance	C_j	$V_R = 0\text{V}$, $f = 1\text{MHz}$		15		pF

Note: Surge current wave form per figure 3.

6. Typical Characteristics

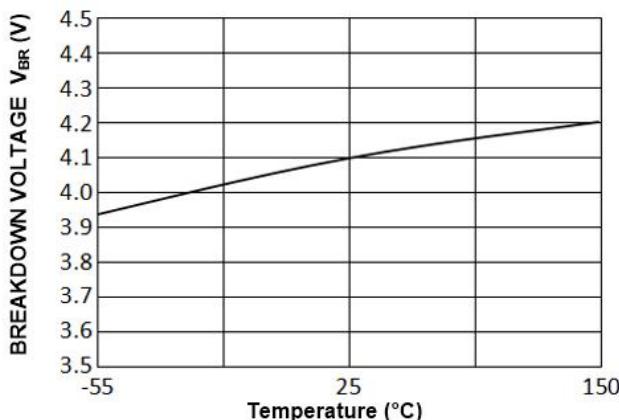


Figure 1: Typical Breakdown Voltage versus Temperature

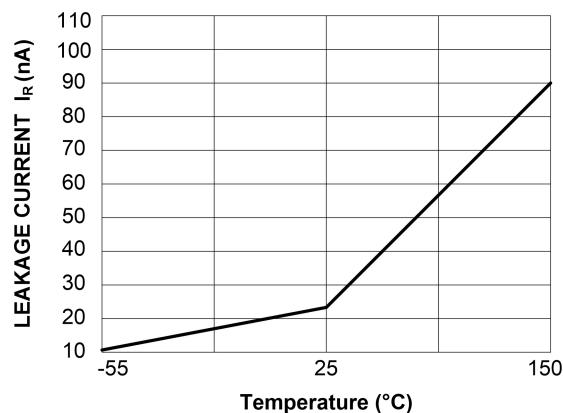


Figure 2: Typical Leakage Current versus Temperature



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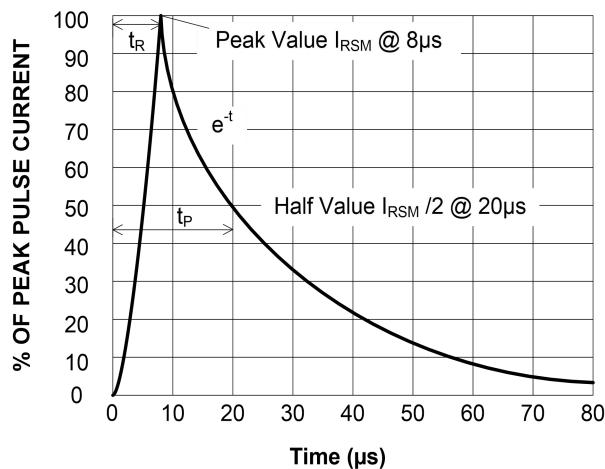
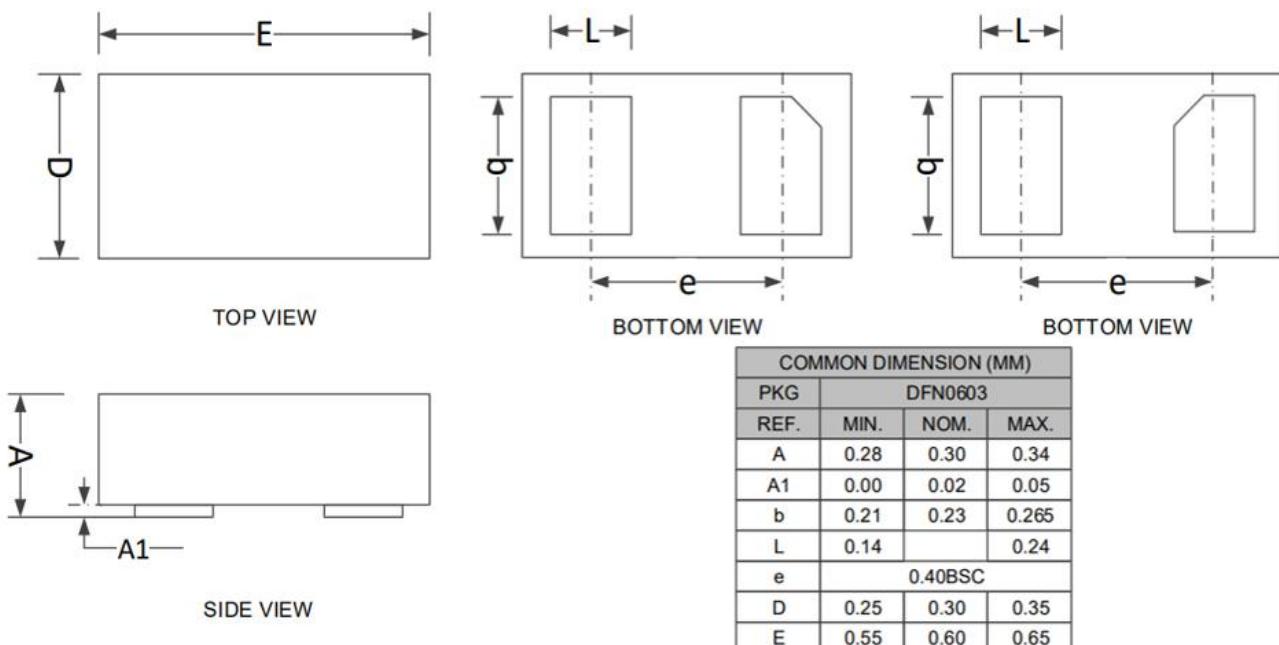


Figure 3: 8/20μs Pulse Wave Form

7. Package Outline Dimensions

Device Marking	Device	Package	Reel size	Tape width	Quantity
C3	MESD3V3SF06B	DFN0603-2L	7inch	8mm	15K





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8. RESTRICTIONS ON PRODUCT USE

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