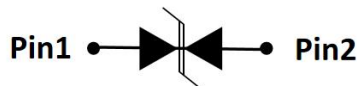


1. General Description

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 data 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

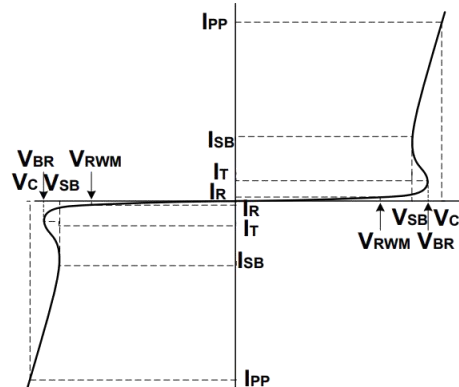


Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

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}	$I_T = 1mA$	3.5		6.0	V
Reverse Leakage Current	I_R	$V_{RWM} = 3.3V$			1	μA
Clamping Voltage	V_C	$I_{PP} = 8A, t_p = 8/20\mu s$			8	V
Junction Capacitance	Cj	$V_R = 0V, f = 1MHz$		15		pF

Note: Surge current wave form per figure 3.

6. Typical Characteristics

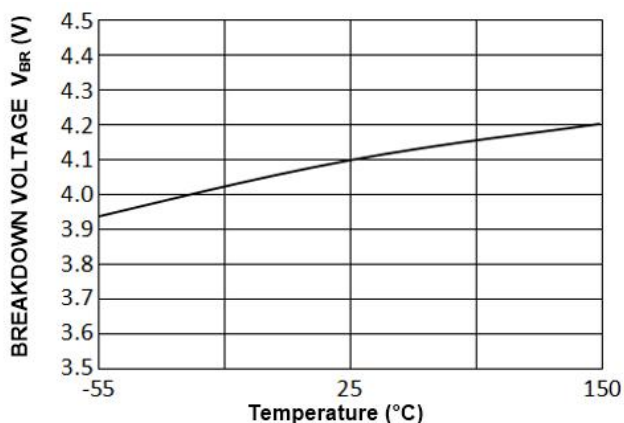


Figure 1: Typical Breakdown Voltage versus Temperature

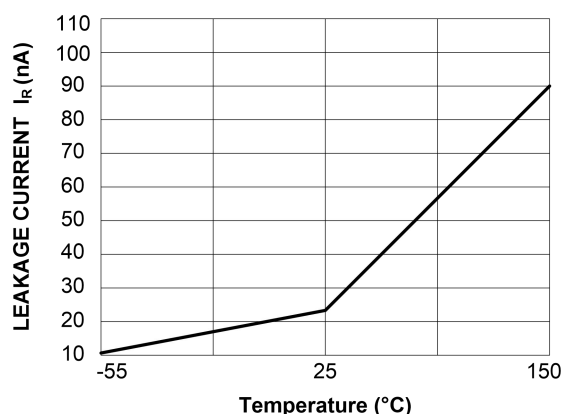


Figure 2: Typical Leakage Current versus Temperature

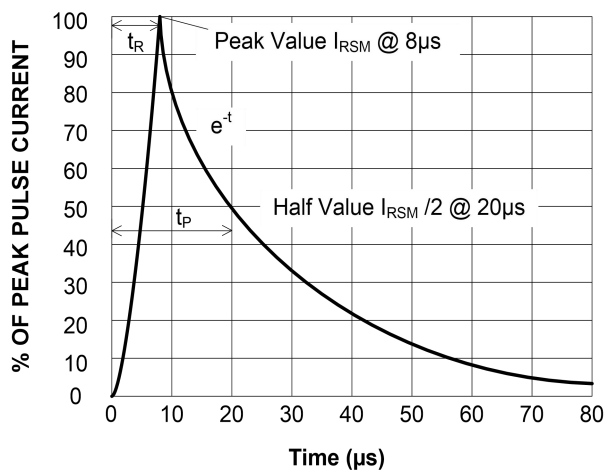
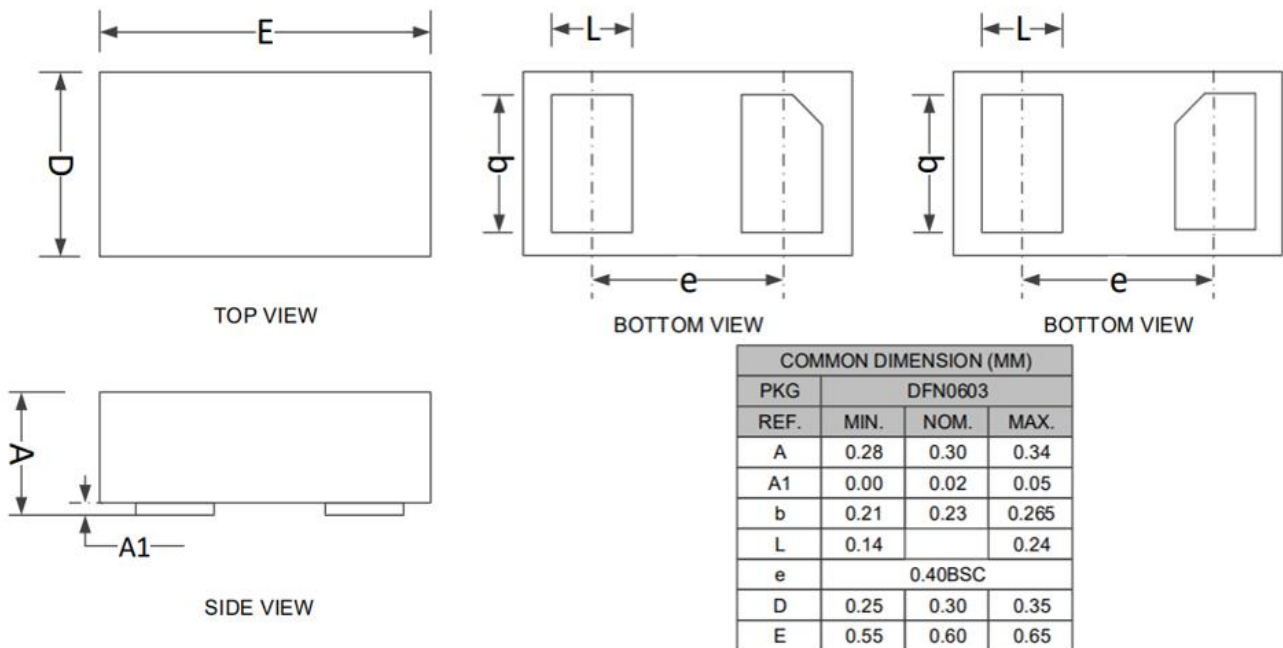


Figure 3: 8/20 μ s Pulse Wave Form

7. Package Outline Dimensions

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



8. RESTRICTIONS ON PRODUCT USE

- The information contained herein is subject to change without notice.
- Miller semiconductor Co., Ltd. exerts the greatest possible effort to ensure high quality and reliability. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing Miller semiconductor products, to comply with the standards of safety in making a safe design for the entire system, including redundancy, fire-prevention measures, and malfunction prevention, to prevent any accidents, fires, or community damage that may ensue. In developing your designs, please ensure that Miller semiconductor products are used within specified operating ranges as set forth in the most recent Miller semiconductor products specifications.
- The Miller semiconductor products listed in this document are intended for usage in general electronics applications (computer, personal equipment, office equipment, measuring equipment, industrial robotics, domestic appliances, etc.). These Miller semiconductor products are neither intended nor warranted for usage in equipment that requires extraordinarily high quality and/or reliability or a malfunction or failure of which may cause loss of human life or bodily injury ("Unintended Usage"). Unintended Usage include atomic energy control instruments, airplane or spaceship instruments, transportation instruments, traffic signal instruments, combustion control instruments, medical instruments, all types of safety devices, etc.. Unintended Usage of Miller semiconductor products listed in this document shall be made at the customer's own risk.