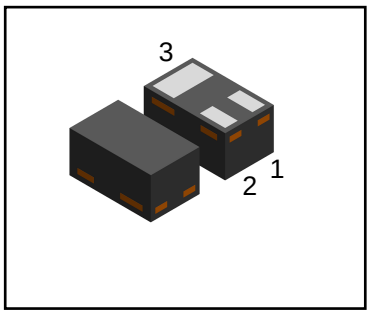
XESD3FD5V6B 2-Line ESD protection

Description

The XESD3FD5V6B is designed to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space is at a premium.



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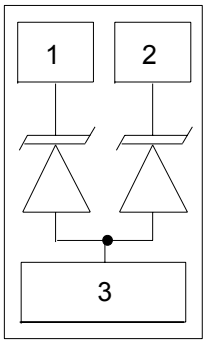


Applications

- Cellular phones audio
- MP3 players
- Digital cameras
- Portable applicationss
- mobile telephone

Features

- Small Body Outline Dimensions:
  0.039″ x 0.024″(1.0 mm x 0.60 mm)
- Low Body Height: 0.020″ (0.50 mm)
- Protects two data lines
- Working voltage: 5V
- 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
- These are Pb−Free Devices
- We declare that the material of product compliance with RoHS requirements.
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

Ordering information

Device	Marking	Shipping
XESD3FD5V6B	68	10000/Tape&Reel

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
IEC 61000-4-2 (ESD) Air discharge Contact discharge		±20 ±16	kV kV
ESD Voltage Per Human Body Model		16	kV
Total Power Dissipation on FR-5 Board (Note 1) @ T_A=25℃	PD	250	mW
Junction and Storage Temperature Range	TJ,TSTG	-55 to 150	℃
Lead Solder Temperature – Maximum (10 Second Duration)	TL	260	℃

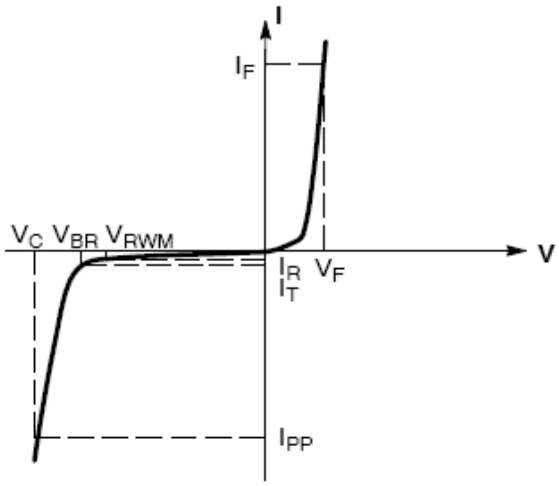
Stresses exceeding Maximum Ratings may damage the device. Maximum Rating are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

1. FR-5 = 1.0*0.75*0.62 in.

ELECTRICAL CHARACTERISTICS

(T_A = 25°C unless otherwise noted)

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}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F
P_{pk}	Peak Power Dissipation
C	Max. Capacitance @V_R = 0 and f = 1 MHz



Uni−Directional TVS

ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise noted, VF=1.25VMax. @ IF=10mA)

Device	V_{RWM} (V)	I_R (μA) @ V_{RWM}	V_{BR} (V) @ I_T (Note 2)	I_T (mA)	I_{PP} (A) (Note 3)	V_C (V) @ Max I_{PP} (Note 3)	P_{PK} (W) (8*20 μs)	C (pF)
	Max	Max	Min		Max	Max	Typ	Typ
XESD3FD5V6B	5.0	1.0	6.0	1.0	7	11.0	77	40

Other voltage available upon request.

2. V_{BR} is measured with a pulse test current IT at an ambient temperature of 25℃

3. Surge current waveform per Figure 1.

TYPICAL CHARACTERISTICS

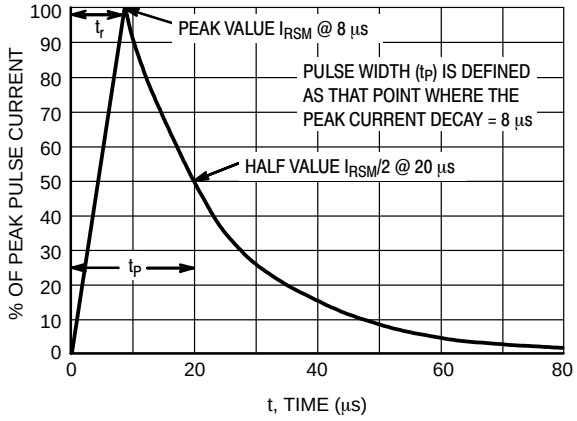


Figure 1. 8 × 20 μs Pulse Waveform

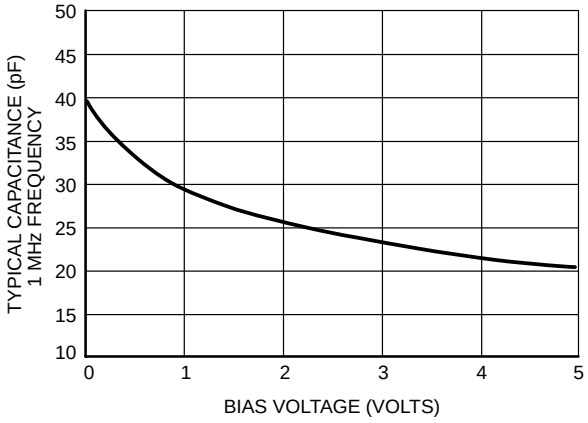


Figure 2. Capacitance

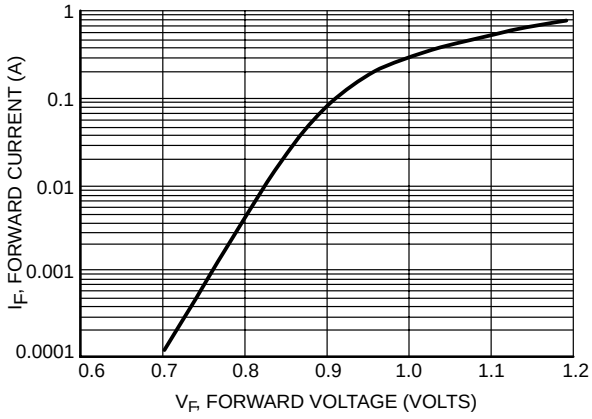


Figure 3. Forward Voltage

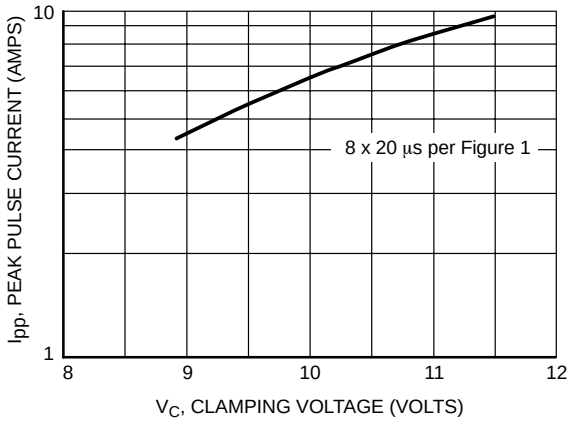


Figure 4. Clamping Voltage versus Peak Pulse Current

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DIMENSION OUTLINE: Unit:mm