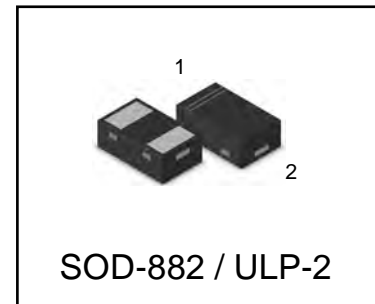


Transient Voltage Suppressors for ESD Protection General Description

Discription

The FTV12BAUL2 is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. 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.



Applications

- Cellular phones audio
- MP3 players
- Digital cameras
- Portable applications
- Mobile telephone

Ordering information

Device	Marking	Shipping
FTV12BAUL2	H1	10000/Tape&Reel

Features

- 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.

Absolute Ratings (T_{amb}=25°C)

Rating	Symbol	Value	Unit
IEC 61000-4-2 (ESD) Air discharge Contact discharge		± 16 ± 16	kV kV
ESD Voltage Per Human Body Model		16	kV
Total Power Dissipation on FR-5 Board (Note 1) @ T _A =25°C	PD	200	mW
Junction and Storage Temperature Range	T _J ,T _{STG}	-55 to150	°C
Lead Solder Temperature – Maximum (10 Second Duration)	TL	260	°C

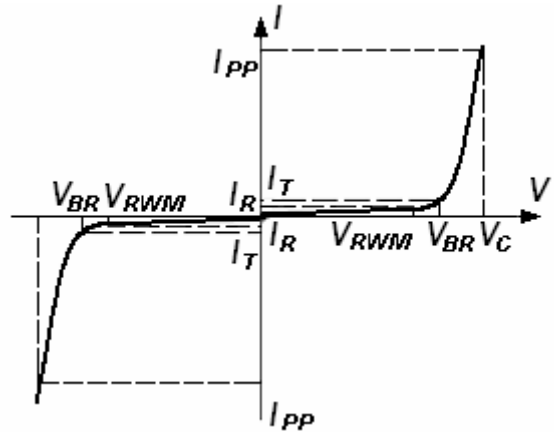
Stresses exceeding Maximum Ratings may damage the device. Maximum Rating are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

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

ELECTRICAL CHARACTERISTICS

(TA = 25 C unless otherwise noted)

Symbol	Parameter
IPP	Maximum Reverse Peak Pulse Current
VC	Clamping Voltage @ IPP
VRWM	Working Peak Reverse Voltage
IR	Maximum Reverse Leakage Current @ VRWM
VBR	Breakdown Voltage @ IT
IT	Test Current
Ppk	Peak Power Dissipation
C	Capacitance @ VR = 0 and f = 1.0 MHz



ELECTRICAL CHARACTERISTICS (TA=25 unless otherwise noted, VF=0.9V Max. @ IF=10Ma for all types)

Device	VRWM (V)	IR (uA) @ VRWM	VBR (V) @ IT (Note 2)		IT (mA)	IPP (A) (Note 3)	VC (V) @ Max IPP (Note 3)	Ppk (W) (8*20 μs)	C (pF)		
	Max	Max	Min	Max		Max	Max	Max	Min	Typ	Max
FTV12BAUL2	12	1.0	13.3	16	1.0	4	18	72	3.5	6.5	9.5

2. VBR is measured with a pulse test current IT at an ambient temperature of 25°C
3. Surge current waveform per Figure 3.

TYPICAL CHARACTERISTICS

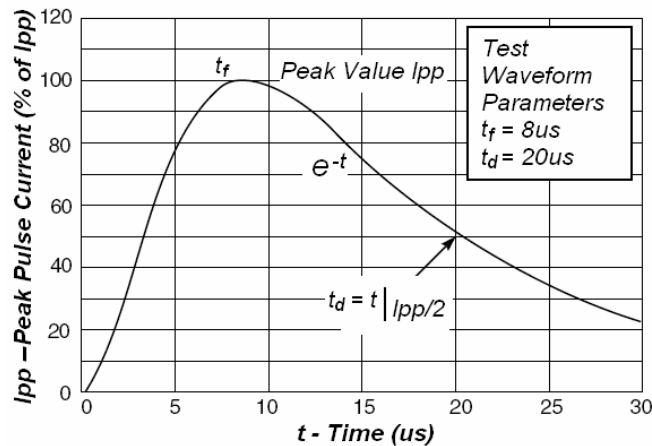


Fig1. Pulse Waveform

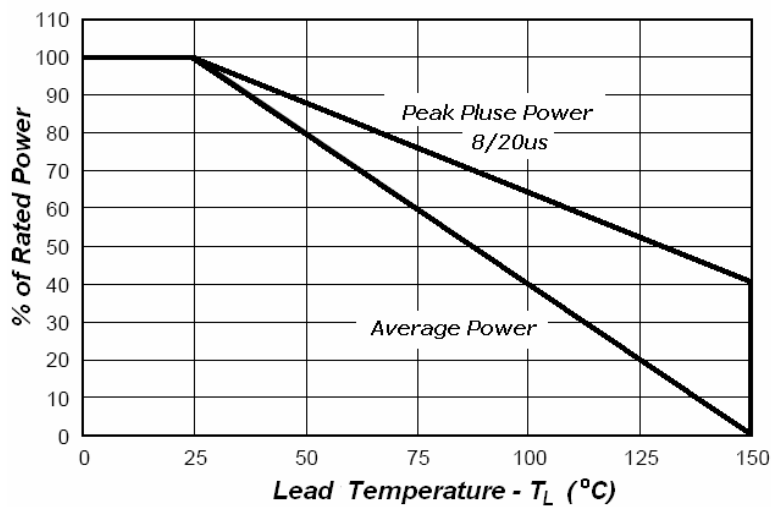


Fig2 Power Derating

Application Note

Electrostatic discharge (ESD) is a major cause of failure in electronic systems. Transient Voltage Suppressors (TVS) are an ideal choice for ESD protection. They are capable of clamping the incoming transient to a low enough level such that damage to the protected semiconductor is prevented.

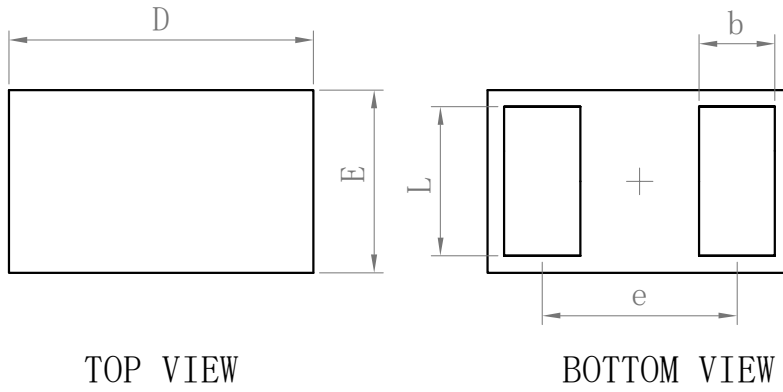
Surface mount TVS offer the best choice for minimal lead inductance. They serve as parallel protection elements, connected between the signal line to ground. As the transient rises above the operating voltage of the device, the TVS becomes a low impedance path diverting the transient current to ground.

The FTV12BAUL2 is the ideal board level protection of ESD sensitive semiconductor components.

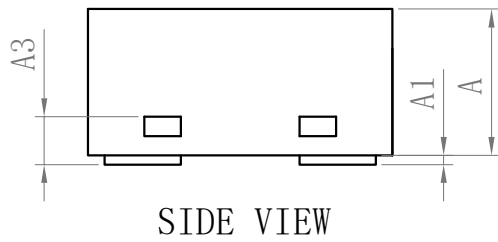
The tiny SOD-882 package allows design flexibility in the design of high density boards where the space saving is at a premium. This enables to shorten the routing and contributes to hardening against ESD.

SOD-882

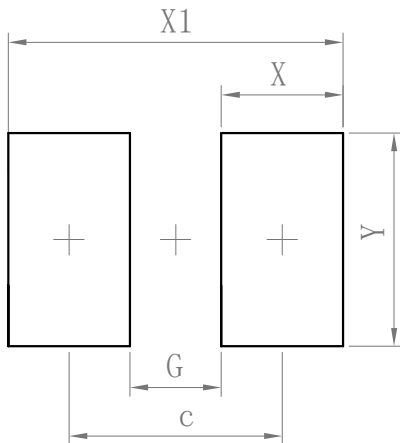
Package Outline Dimension



SOD-882			
Dim	Min	Typ	Max
D	0.95	1.00	1.05
E	0.50	0.60	0.65
e	-	0.64	-
L	0.44	0.49	0.54
b	0.20	0.25	0.30
A	0.43	0.48	0.53
A1	0	-	0.05
A3	0.127REF.		
All Dimensions in mm			



Suggested Pad layout



Dimensions	(mm)
c	0.70
G	0.30
X	0.40
X1	1.10
Y	0.70