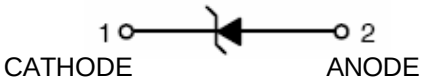
Transient Voltage Suppressors for ESD Protection General Description

Discription

The FTV12UAUL2 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.

SOD882 / ULP-2



Applications

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

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.

Ordering information

Device	Marking	Shipping
FTV12UAUL2	HA	10000/Tape&Reel

Absolute Ratings (T_{amb}=25°C)

Rating	Symbol	Value	Unit
IEC 61000-4-2 (ESD) Air discharge Contact discharge		± 15 ± 8	kV kV
ESD Voltage Per Human Body Model		16	kV
Total Power Dissipation on FR-5 Board (Note 1) @ T_A=25℃	PD	200	mW
Junction and Storage Temperature Range	TJ,TSTG	-55 to150	℃
Lead Solder Temperature – Maximum (10 Second Duration)	TL	260	℃

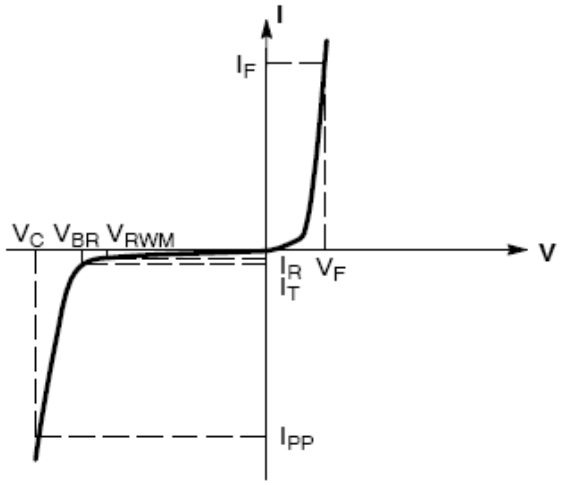
Stresses exceeding Maximum Ratings may damage the device. Maximum Rating are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

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
P_{pk}	Peak Power Dissipation
C	Capacitance @ V_R = 0 and f = 1.0 MHz



Uni–Directional TVS

Device	V_{RWM} (V)	I_R (uA) @ 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
FTV12UAUL2	12	1.0	13.3	1.0	4	20	80	20

2. V_{BR} is measured with a pulse test current IT at anambient temperature of 25℃
3. Surge current waveform per Figure 3.

TYPICAL CHARACTERISTICS

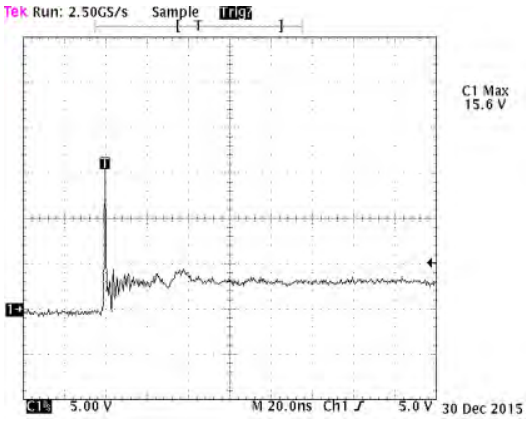


Figure 1. Positive 8kV contact per IEC 61000-4-2-LESD8D12AT5G

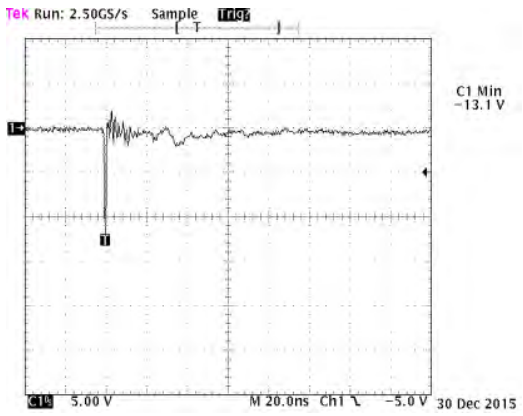


Fig 2. Negative 8kV contact per IEC 61000-4-2-LESD8D12AT5G

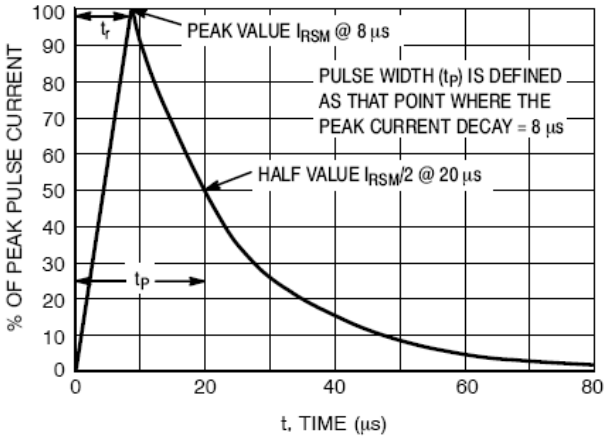


*Figure 3. 8*20 µs Pulse Waveform*

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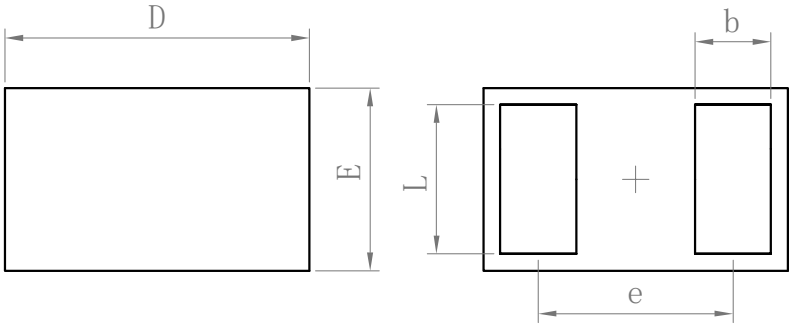
Package Outline Dimension



TOP VIEW BOTTOM VIEW

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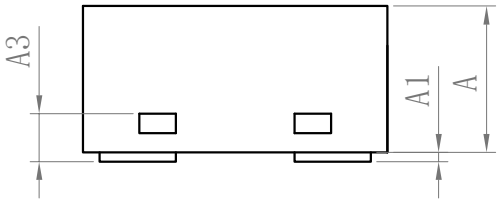
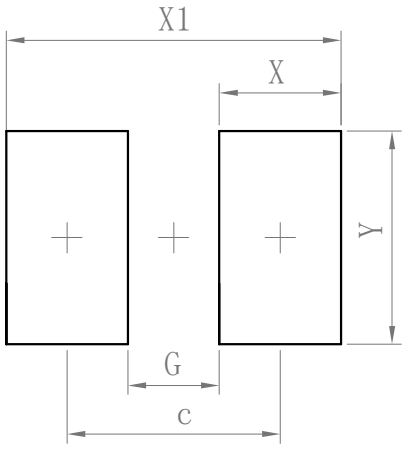
Dim	Min	Typ	Max
D	0.95	1.00	1.05
E	0.50	0.60	0.65
e	–	0.64	–
L	0.44	0.49	0.54
b	0.20	0.25	0.30
A	0.43	0.48	0.53
A1	0	–	0.05
A3	0.127REF.		
All Dimensions in mm			



SIDE VIEW

Suggested Pad layout



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