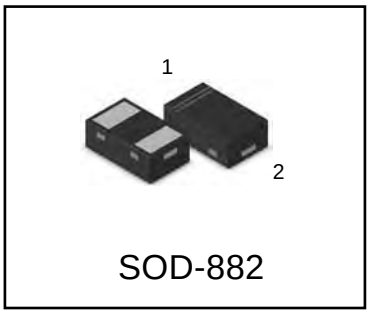
ESD Protection Diodes

The FTV05CBUL2 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
- Portable devices
- Digital cameras
- Power supplies

Features

- Small Body Outline Dimensions
- Low Body Height
- Peak Power up to 85 Watts @ 8 x 20μs Pulse
- Low Leakage current
- Response Time is Typically < 1 ns
- We declare that the material of product compliance with RoHS requirements.

Ordering information

Device	Marking	Shipping
FTV05CBUL2	U2	10000/Tape&Reel

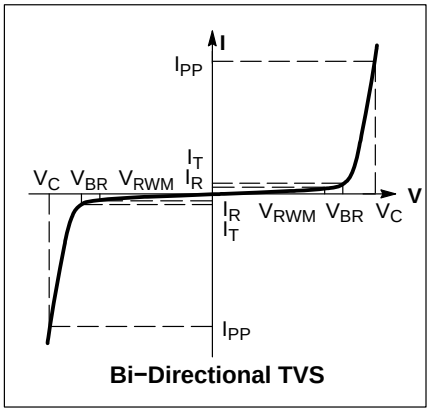
Absolute Ratings (T_a=25°C)

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (t_p = 8/20μs)	85	W
T_L	Maximum lead temperature for soldering during 10s	260	°C
T_{stg}	Storage Temperature Range	-55 to +155	°C
T_{op}	Operating Temperature Range	-40 to +150	°C
T_j	Maximum junction temperature	150	°C
	IEC61000-4-2 (ESD) air discharge	± 30	KV
	IEC61000-4-2 (ESD) contact discharge	± 30	KV

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



ELECTRICAL CHARACTERISTICS

Device	V_{RWM} (V)	I_R (uA) @ V_{RWM}	V_{BR} (V) @ I_T (Note 1)		I_T	V_C (V) @ I_{PP} = 1 A	V_C (V) @I_{PP} = 8A	I_{PP}(A)	P_{PK}(W)	C (pF)
	Max	Max	Min	Max	mA	Max	Max	Max	Max	Max
FTV05CBUL2	5.0	0.5	5.6	7.0	1.0	8.5	9.0	10	85	20

*Surge current waveform per Figure 1.

1. V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25°C

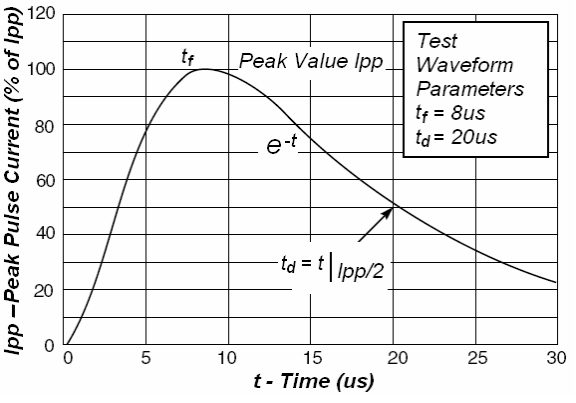


Fig1. Pulse Waveform

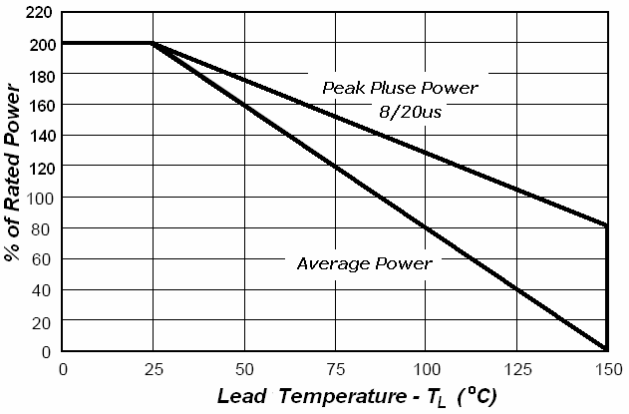


Fig2. Power Derating Curve

Figure 3. Positive 8kV contact per IEC 61000-4-2

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

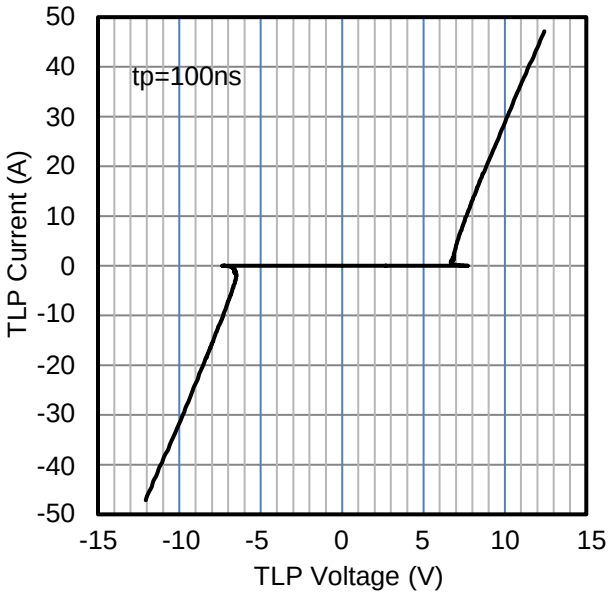


Fig5. TLP Measurement

OUTLINE AND DIMENSIONS

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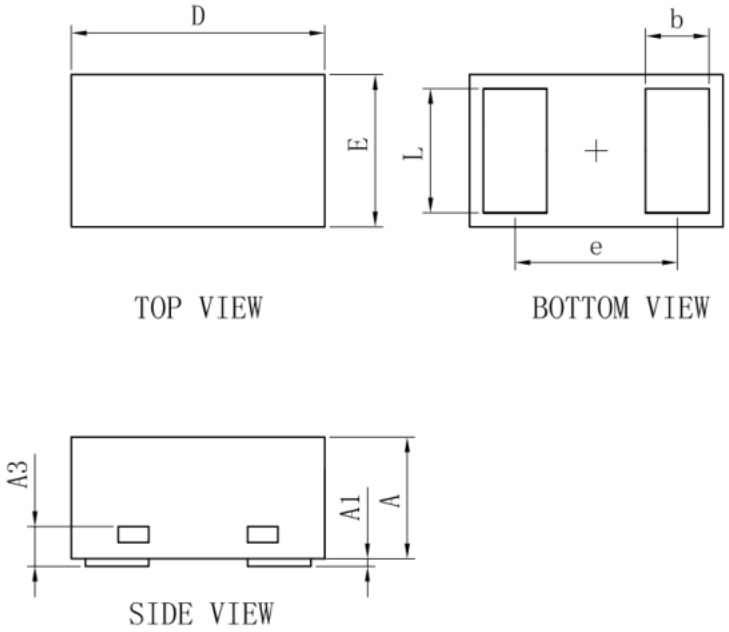

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Dim	Min	Typ	Max
D	0.95	1.00	1.05
E	0.55	0.60	0.65
e	–	0.64	–
L	0.44	0.49	0.54
b	0.20	0.25	0.30
A	0.43	0.48	0.53
A1	0	–	0.05
A3	0.127REF.		
All Dimensions in mm			

SOLDERING FOOTPRINT

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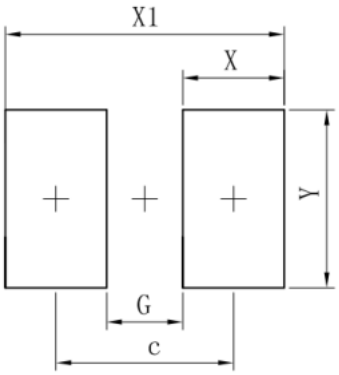

Dimensions	(mm)
c	0.70
G	0.30
X	0.40
X1	1.10
Y	0.70