

Transient Voltage Suppressors for ESD Protection

General Description

The FTV05UU Series 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.

Applications

- Cellular Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants(PDA'S)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Pagers Peripherals

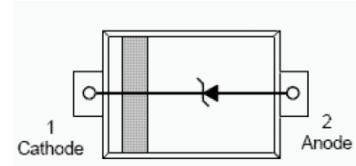
Features

- Small Body Outline Dimensions
- 350 Watts peak pulse power ($t_p = 8/20\mu s$)
- Transient protection for data lines to
IEC 61000-4-2 (ESD) $\pm 15kV$ (air), $\pm 8kV$ (contact)
IEC 61000-4-4 (EFT) 40A (5/50ns)
IEC 61000-4-5 (Lightning) 24A (8/20 μs)
- Small package for use in portable electronics
- Suitable replacement for MLV's in ESD protection applications
- Protects one I/O or power line
- Low clamping voltage
- Working voltages: 5V and 12V
- Low leakage current
- Solid-state silicon-avalanche technology
- We declare that the material of product compliance with RoHS requirements.

Absolute Ratings (Ta=25°C)

Symbol	Parameter	Value	Units
P_{PK}	Peak Pulse Power ($t_p = 8/20\mu s$)	350	W
V_{ESD}	ESD Voltage(HBM Waveform per IEC 61000-4-2)	15	kV
T_L	Maximum lead temperature for soldering during 10s	260	°C
T_{STG}	Storage Temperature Range	-55 to +150	°C
T_J	Maximum junction temperature	-55 to +150	°C

SOD-323

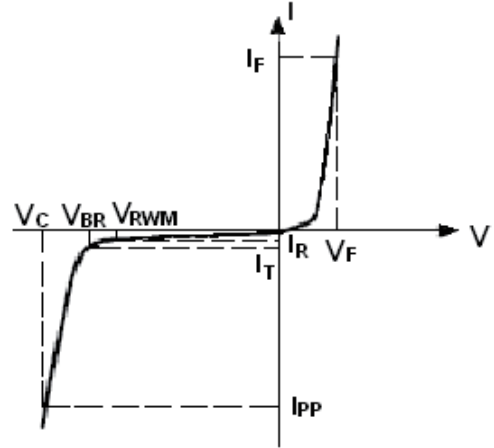


ORDERING INFORMATION

Device	Package	Shipping
FTV05UU	SOD-323	3000/Tape & Reel

Electrical Parameter

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
I_F	Forward Current
V_F	Forward Voltage @ I_F



Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified. $V_F = 0.9V$ at $I_F = 10mA$

Device	V_{RWM} (V)	I_R (μA) @ $V_{RWM}=5V$	V_{BR} (V)@ $I_T=1mA$	V_C (V) @ $I_{PP}=5 A$ $t_p=8/20\mu s$	V_C (V) @ $I_{PP}=24$ $t_p=8/20\mu s$	I_{PP} (A) $t_p=8/20\mu s$	C (pF)
	Max	Max	Min	Typ	Max	Max	Typ
FTV05UU	5.0	10	6.0	9.8	10.5	24	350
FTV12UU	12.0	1.0	13.3	19.0	16.5	15	150

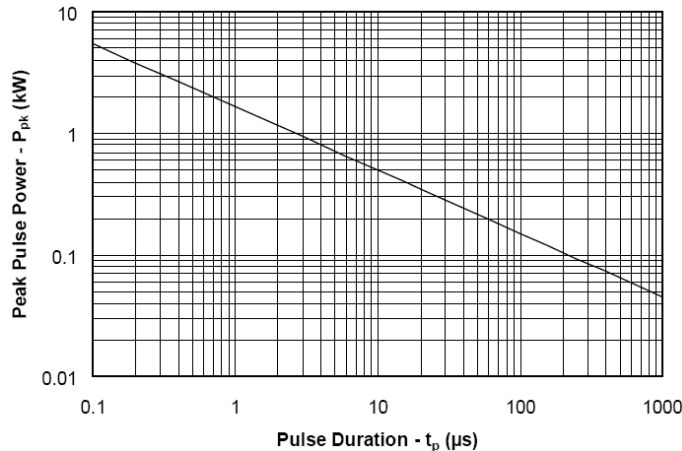


Fig.1 Non-Repetitive Peak Pulse Power vs. Pulse Time



FTV05UU

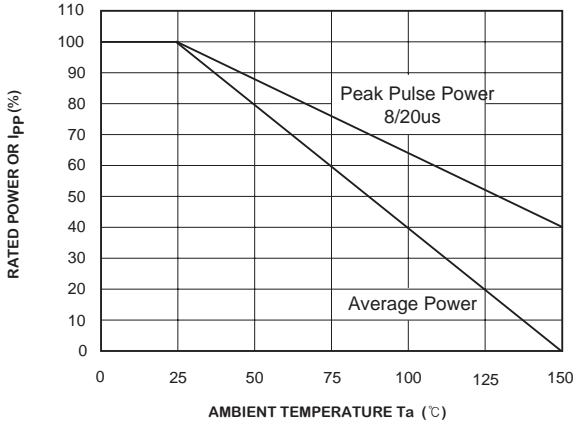


Fig.2 Power Derating Curve

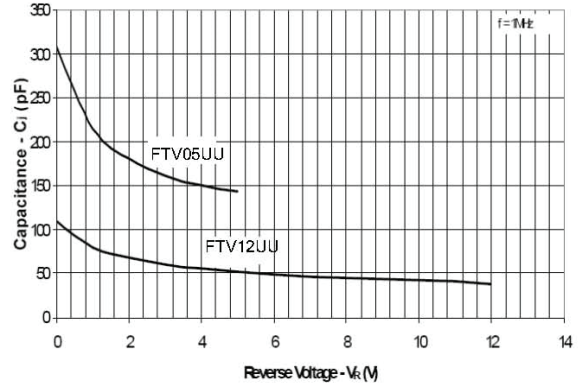


Fig.5 Capacitance vs. Reverse Voltage

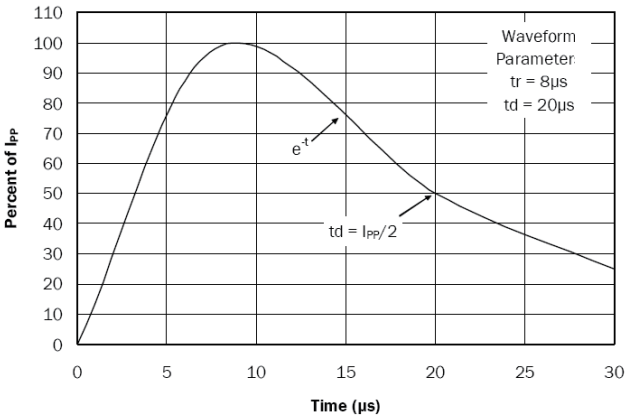


Fig.3 Waveform

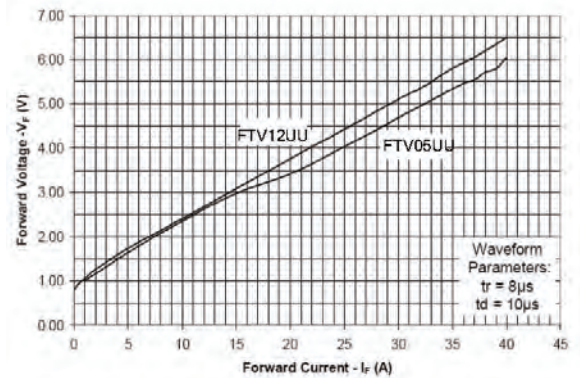


Fig.6 Forward Voltage vs. Forward Current

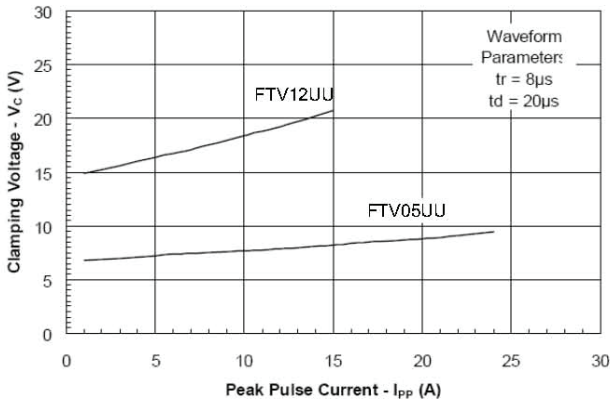
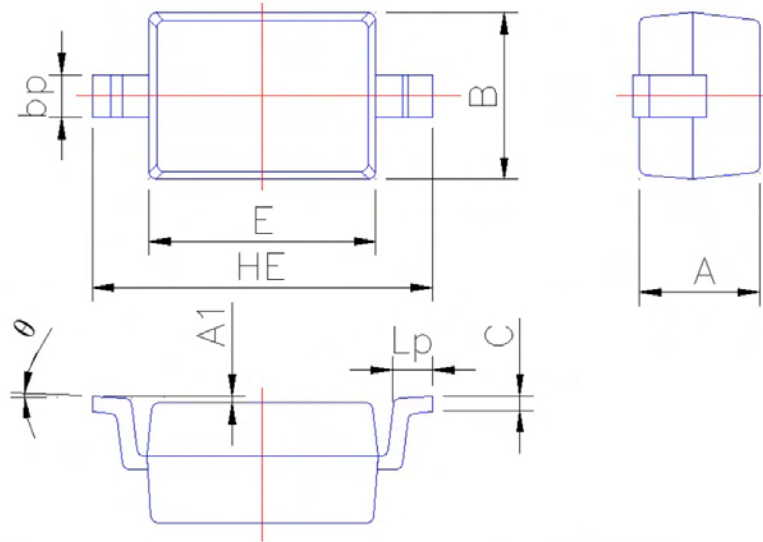


Fig.4 Clamping Voltage vs. Peak Pulse Current

SOD-323



Symbol	Dimension in Millimeters	
	Min	Max
A	0.95	1.15
A1	0.010	0.100
B	1.20	1.40
bp	0.25	0.40
C	0.09	0.150
E	1.60	1.80
HE	2.30	2.70
Lp	0.20	0.40
θ	0°	5°