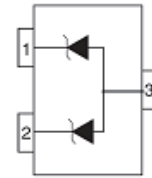


Low Capacitance ESD Protector

Description

TVS diodes are designed to replace multilayer varistors (MLVs) in portable applications such as cell phones, notebook computers, and PDA's. They offer superior electrical characteristics such as lower clamping voltage and no device degradation when compared to MLVs.

The FTV05CAE is a TVS array designed to protect I/O or data lines from the damaging effects of ESD. The package is very small, which allows space saving on high density printed circuit board and also gives the designer the flexibility to provide two I/O lines protection.



SOT-523

Feature

- Solid-state silicon-avalanche technology
- Protect up two data lines
- Low clamping voltage
- Working voltage: 5V
- Low leakage current
- 125 watts peak pulse power($T_p=8/20\mu s$)
- Complies with the following standards: IEC 61000-4-2(ESD)Air-15kv,Contact-8kv

Applications

- High-Definition Multimedia Interface(HDMI)
- Mobile Display Digital Interface(MDDI)
- RF/Antenna Circuits
- USB 2.0&Firewire Ports
- HBT Power Amp Protection
- Infiniband Transceiver Protection

Electrical characteristics per line@25°C(unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse stand-off voltage	V_{RWM}				5	V
Reverse Breakdown voltage	V_{BR}	$I_t = 1\text{mA}$	6			V
Reverse Leakage Current	I_R	$V_{RWM} = 5\text{V}$ $T=25^\circ\text{C}$			1	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$, $t_P = 8/20\mu s$ pin1 to pin2			15	V
Clamping Voltage	V_C	$I_{PP} = 5\text{A}$, $t_P = 8/20\mu s$ pin1 to pin2 to pin3			22	V
Clamping Voltage	V_C	$I_{PP} = 5\text{A}$, $t_P = 8/20\mu s$ pin1 to Pin2			25	V
Junction Capacitance	C_j	$V_R=0\text{V}$ $f = 1\text{MHz}$ Pin1 to Pin2		1.5		pF
Junction Capacitance	C_j	$V_R=0\text{V}$ $f = 1\text{MHz}$ pin1 or Pin2 to Pin3		3		pF

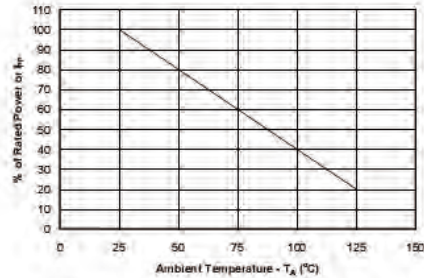
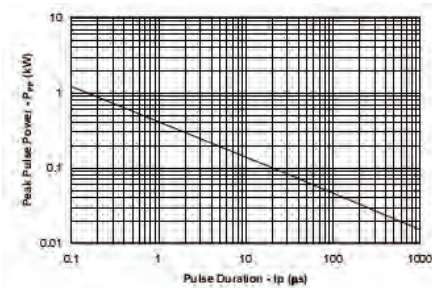


FTV05CAE

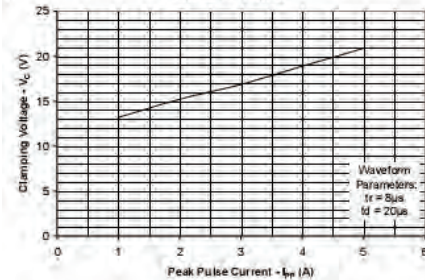
Absolute maximum rating @25°C

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu\text{S}$)	P_{pp}	125	Watts
Peak Pulse Power ($t_p=8/20\mu\text{S}$)	I_{pp}	5	A
Operating Temperature	T_J	-55 to +125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

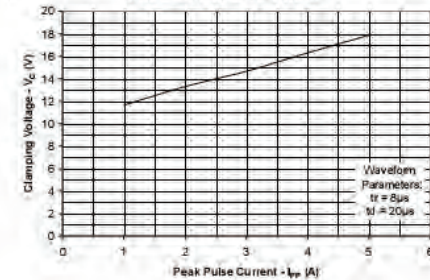
Typical Characteristics



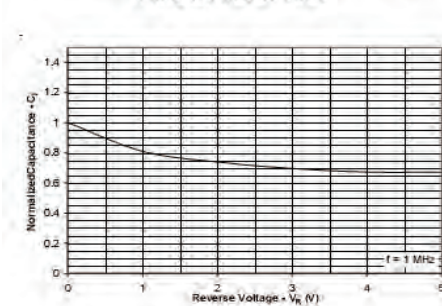
Clamping Voltage vs. Peak Pulse Current
Pin 1 to Pin 2



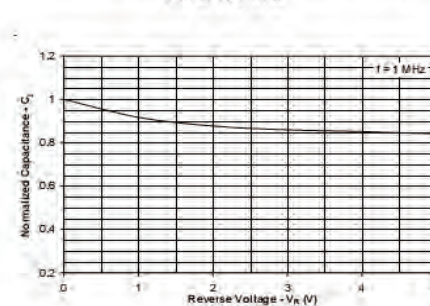
Clamping Voltage vs. Peak Pulse Current
Pin 1 or Pin 2 to Pin 3



Normalized Capacitance vs. Reverse Voltage
Pin 1 or Pin 2 to Pin 3



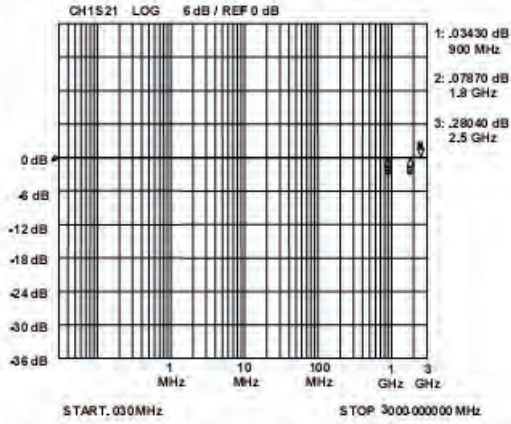
Normalized Capacitance vs. Reverse Voltage
Pin 1 to Pin 2



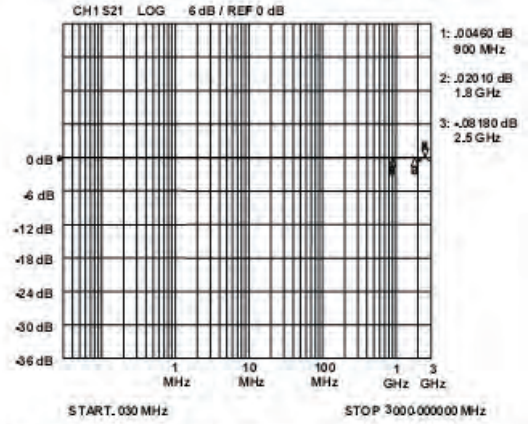


FTV05CAE

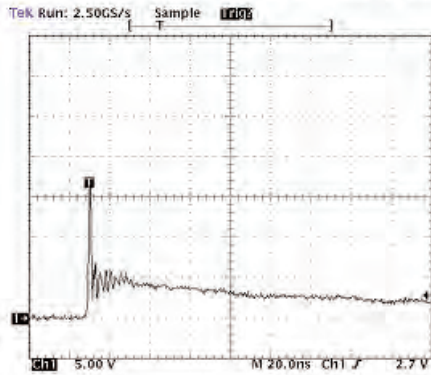
Insertion Loss S21 (Pin 1 to Pin 2)



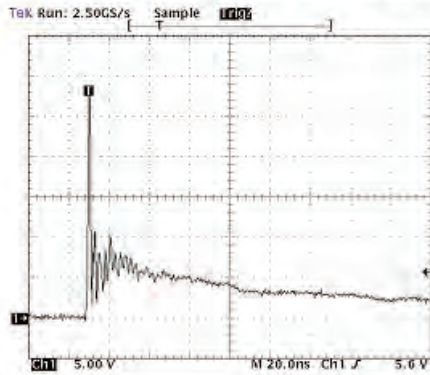
Insertion Loss S21 (Pin 1 or Pin 2 to Pin 3)



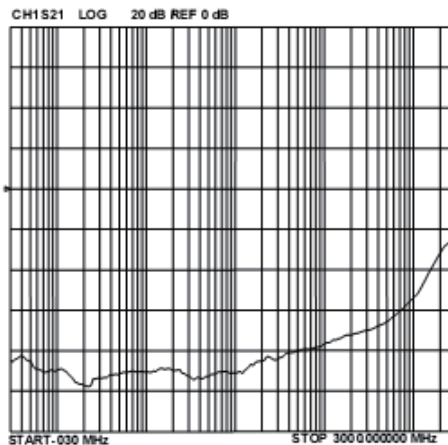
ESD Response (4kV Contact per IEC 61000-4-2)



ESD Response (8kV Contact per IEC 61000-4-2)



Analog Crosstalk



Product dimension and pad size

