

Transient Voltage Suppressors for ESD Protection

ESD05V02D-C

Description

The ESD05V02D-C is ultra low capacitance TVS arrays designed to protect high speed data interfaces. This series has been specifically designed to protect sensitive components which are connected to high-speed data and transmission lines from over-voltage caused by ESD (electrostatic discharge), CDE (Cable Discharge Events), and EFT (electrical fast transients).

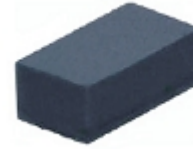
Feature

- ◆ 30 Watts Peak Pulse Power per Line ($t_p=8/20\mu s$)
- ◆ Surface mount package
- ◆ Low clamping voltage
- ◆ Working voltages : 5V
- ◆ Low leakage
- ◆ IEC61000-4-2 (ESD) Level 4 ESD protection
- ◆ Ultra small SMD package:0201

Applications

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

0201/DFN0603



Functional Diagram



Standard Packaging

Case Type	Qty Per Reel	Reel Size
	(Pcs)	(inch)
0201(DFN0603)	8,000	7

Mechanical Data

- ◆ Case:0201/DFN0603 Package molded plastic.
- ◆ Terminals: Gold plated, solderable per MIL-STD-750, Method 2026.
- ◆ Polarity: Color band denotes cathode end.
- ◆ Mounting position: Any
- ◆ Reel Size : 7 inch

Mechanical Characteristics

Symbol	Parameter	Value	Units
P _{PP}	Peak Pulse Power ($t_p=8/20\mu s$ waveform)	30	W
I _{PP}	Peak Pulse Current ($t_p=8/20\mu s$ waveform)	2.0	A
T _J	Operating Junction Temperature Range	-55 to +125	°C
T _{STG}	Storage Temperature Range	-55 to +150	°C
T _L	Soldering Temperature, t max = 10s	260	°C
	IEC61000-4-2 (ESD)	Air Discharge	16
		Contact Discharge	8
			KV

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Electrical Characteristics (@ 25°C Unless Otherwise Specified)

Part Number	Device Marking	V _{RWM} (V) (Max.)	V _B (V) (Min.)	I _T (mA)	V _C @1A (Max.)	V _C		I _R (nA) (Max.)	C (pF) (Typ.)
						(Max.)	(@A)		
ESD05V02D-C	5	5.0	5.5	1	12.0	15.0	2	100	6

Characteristic Curves

Fig1. 8/20µs Pulse Waveform

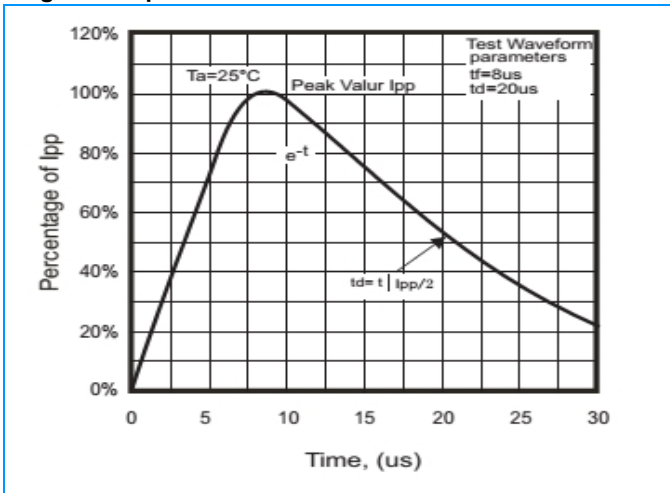


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

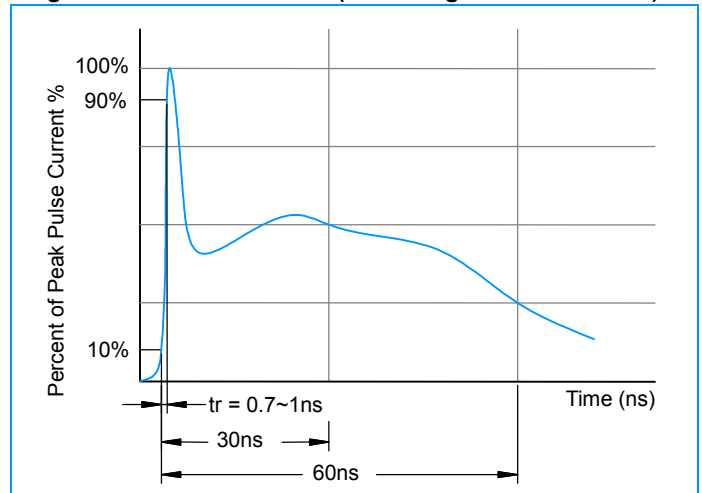
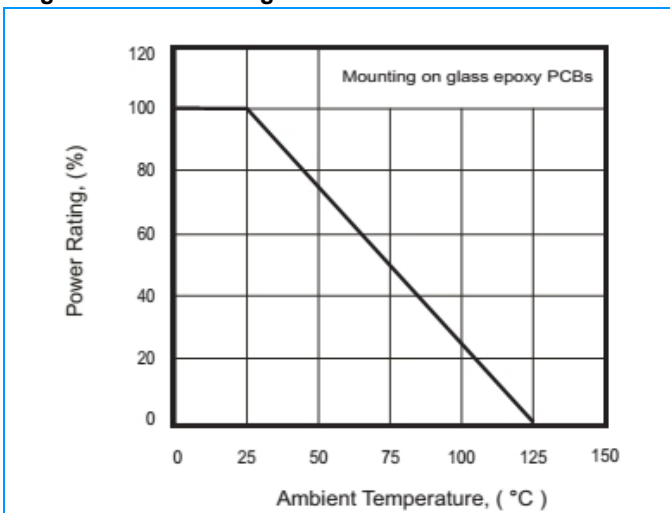


Fig3. Power Derating Curve



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Characteristic Curves

Fig4. Clamping Voltage Vs. Peak Pulse Current

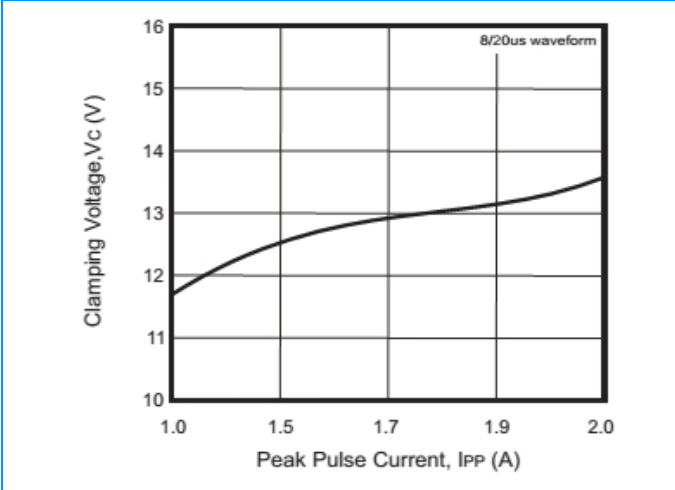
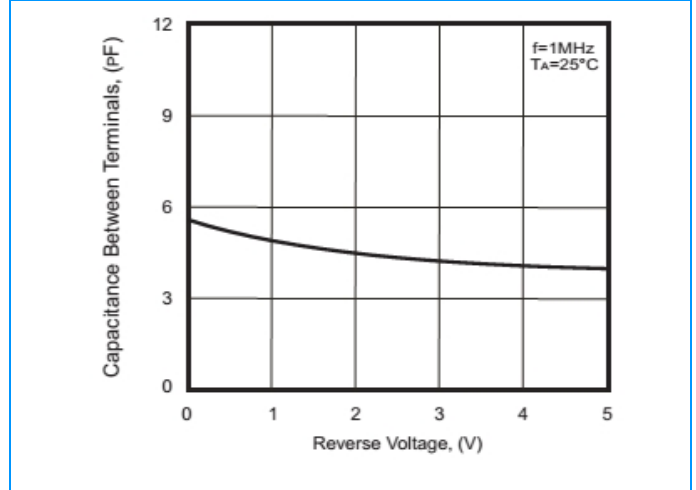
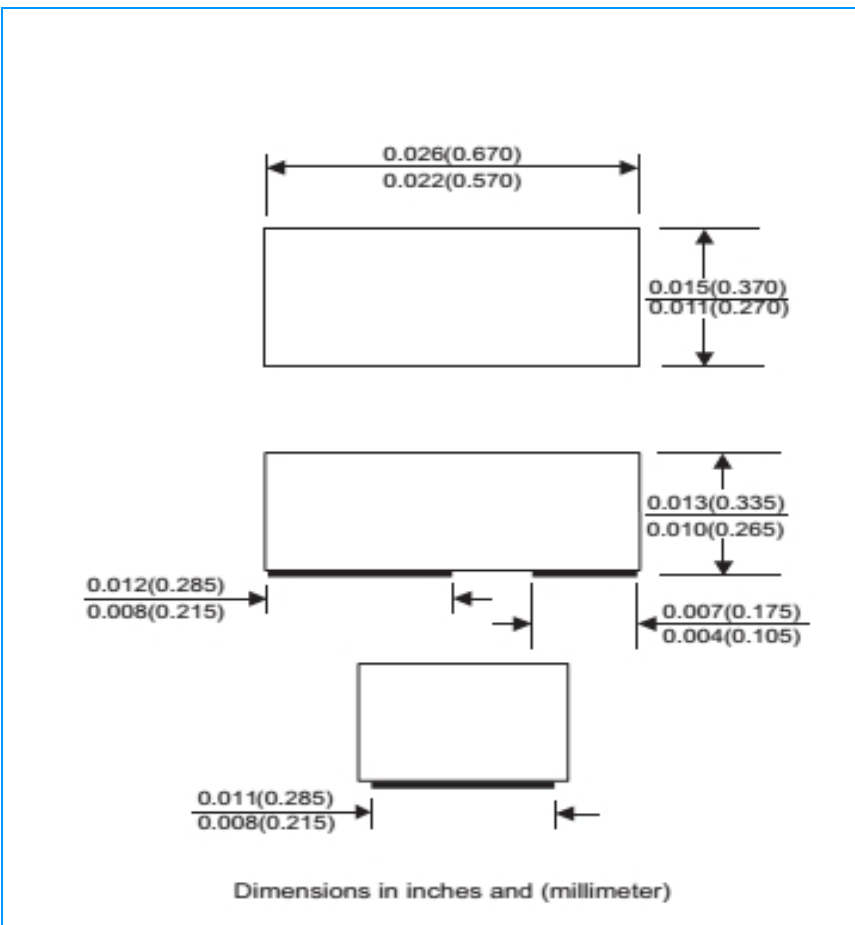


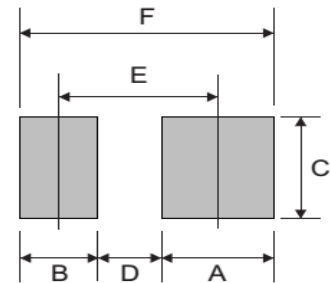
Fig5. Capacitance Between Terminals Characteristics



0201/DFN0603 Package Outline & Dimensions



Soldering Footprint



Symbol	Inches	Millimeters
A	0.012	0.31
B	0.008	0.20
C	0.014	0.35
D	0.006	0.15
E	0.016	0.40
F	0.026	0.66