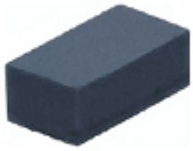
Transient Voltage Suppressors for ESD Protection

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).

0201/DFN0603



Feature

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

Functional Diagram



Standard Packaging

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

Applications

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

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 (tp=8/20μs waveform)**		30	W
I_{PP}	**Peak Pulse Current (tp=8/20μs waveform)**		2.0	A
T_J	**Operating Junction Temperature Range**		-55 to +125	ºC
T_{STG}	**Storage Temperature Range**		-55 to +150	ºC
T_L	**Soldering Temperature, t max = 10s**		260	ºC
	IEC61000-4-2 (ESD)	**Air Discharge**	16	KV
		Contact Discharge	8	

@ UN Semiconductor Co., Ltd. 2013
Specifications are subject to change without notice.
Please refer to www.unsemi.com.tw for current information.

Transient Voltage Suppressors for ESD Protection

ESD05V02D-C

Electrical Characteristics (@ 25℃ 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

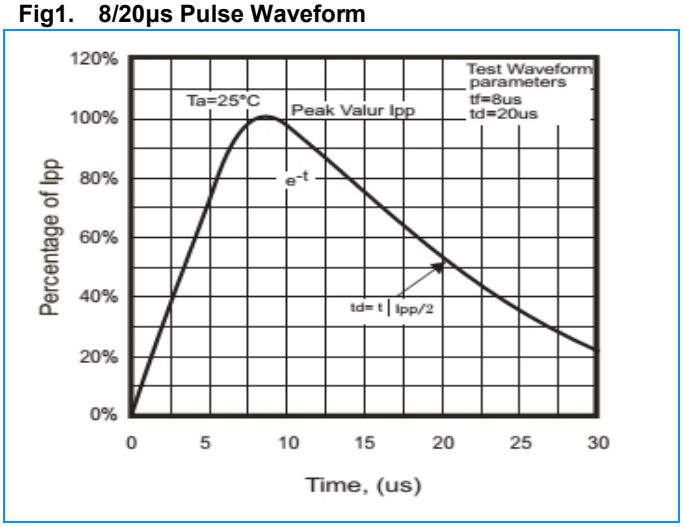


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

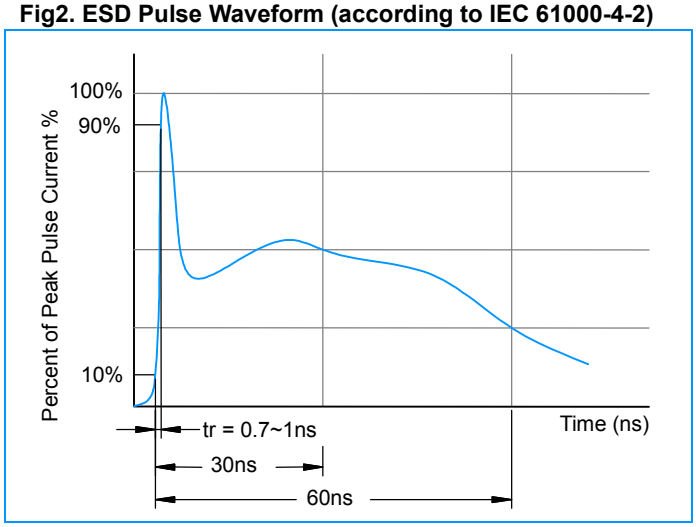
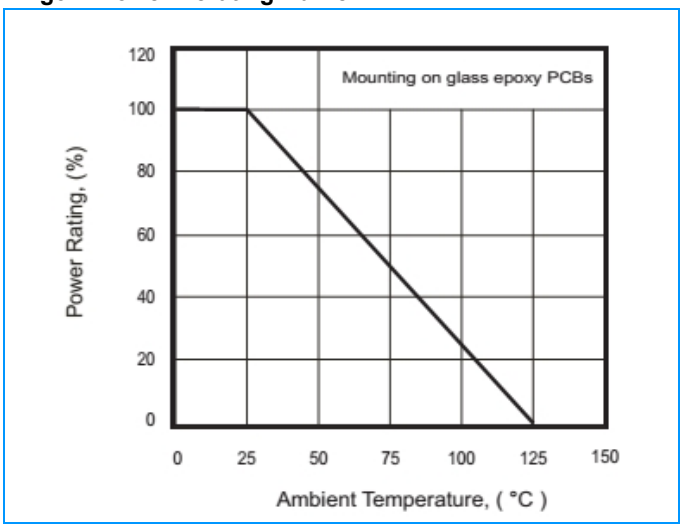


Fig3. Power Derating Curve



@ UN Semiconductor Co., Ltd. 2013
Specifications are subject to change without notice.
Please refer to www.unsemi.com.tw for current information.

Transient Voltage Suppressors for ESD Protection

ESD05V02D-C

Characteristic Curves

Fig4. Clamping Voltage Vs. Peak Pulse Current

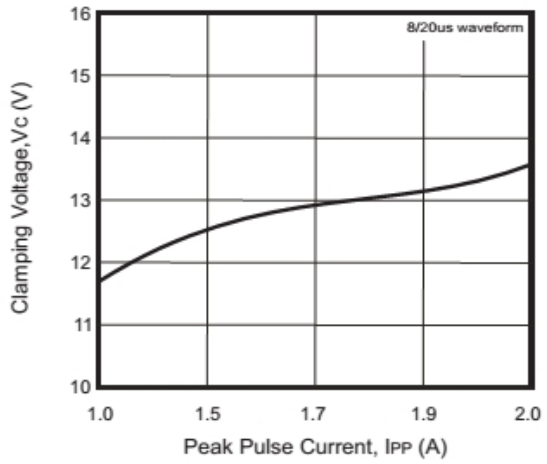
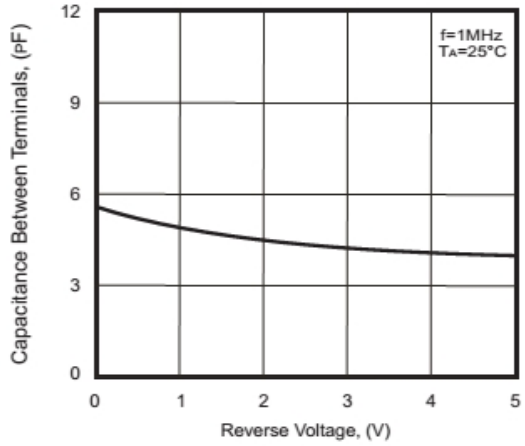
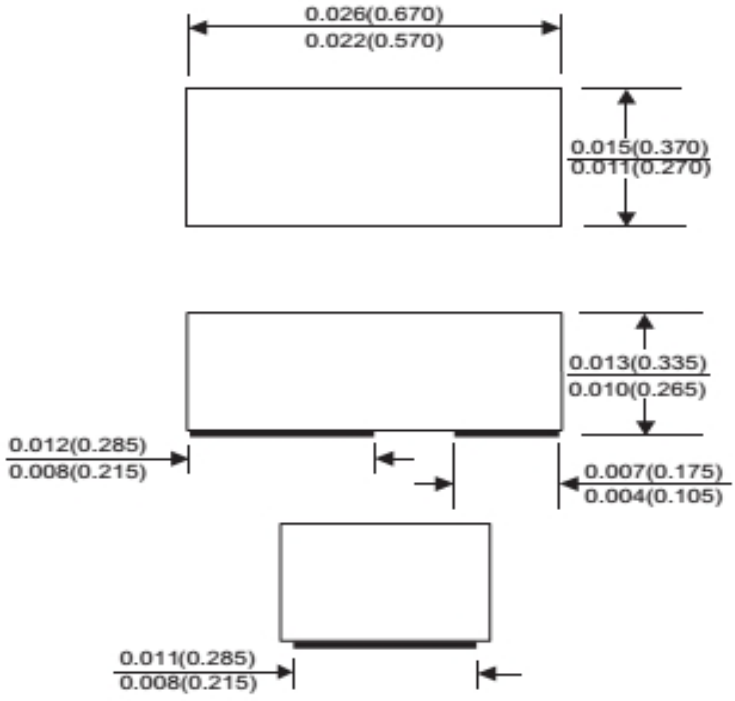


Fig5. Capacitance Between Terminals Characteristics

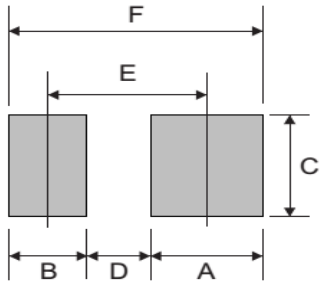


0201/DFN0603 Package Outline & Dimensions



Dimensions in inches and (millimeter)

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

@ UN Semiconductor Co., Ltd. 2013
Specifications are subject to change without notice.
Please refer to www.unsemi.com.tw for current information.