

Transient Voltage Suppressors for ESD Protection

ESD05V02D-LA

Description

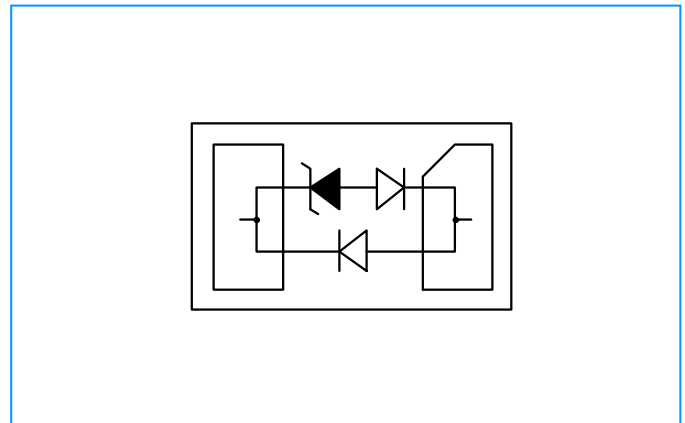
The ESD05V02D-LA is an low capacitance TVS designed to Protect high speed data interface.It has been specifically Designed to protect sensitive electronic components which are connected to data and transmission lines from over-stress Caused by ESD.The ESD05V02D-LA incorporates one pair of Low capacitance steering diodes plus a TVS diode.



Feature

- ◆ 100W peak pulse power($t_p=8/20\mu s$)
- ◆ Low leakage Current and Low Clamping Voltage
- ◆ Protects One high speed data Lines
- ◆ Working voltage:5V
- ◆ RoHS compliant
- ◆ ESD protection to IEC61000-4-2(ESD):
 - ±15kV (air discharge)
 - ±10kV(contact discharge);

Functional Diagram



Applications

- ◆ Cell Phone Handsets and Accessories;
- ◆ Microprocessor based equipment;
- ◆ Communication systems ;
- ◆ Notebooks(DVI/HDMI);
- ◆ Portable Instrumentation;
- ◆ Audio and video equipment;
- ◆ Digital Camera;

Mechanical Data

- ◆ Package:0201/DFN0603
- ◆ Material:Halogen free
- ◆ Packing:Tape&Reel
- ◆ Molding Compound Flammability Rating:UL94V-O

Mechanical Characteristics

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power($T_p=8/20\mu s$ waveform)	100	Watts
T_L	Lead Soldering Temperature	260 (10 sec.)	°C
T_{STG}	Storage Temperature Range	-55 to +150	°C
T_J	Operating Junction Temperature Range	-40 to +125	°C

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Electrical Characteristics (@ 25°C Unless Otherwise Specified)

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse Working Voltage	V_{RWM}	--	--	--	5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	6.0	--	9.0	V
Reverse Leakage Current	I_R	$V_{RWM}=5.0V, T=25^\circ C$	--	--	0.1	μA
Junction capacitance	C_J	$V_R=0V, f=1MHz;$	--	0.6	--	pF
Positive Clamping Voltage	V_C	$I_{PP}=1.0A, T_P=8/20\mu s;$	--	9.0	--	V
		$I_{PP}=4.0A, T_P=8/20\mu s;$	--	12.0	25.0	V

Characteristic Curves

Fig1. 8/20 μs Pulse Waveform

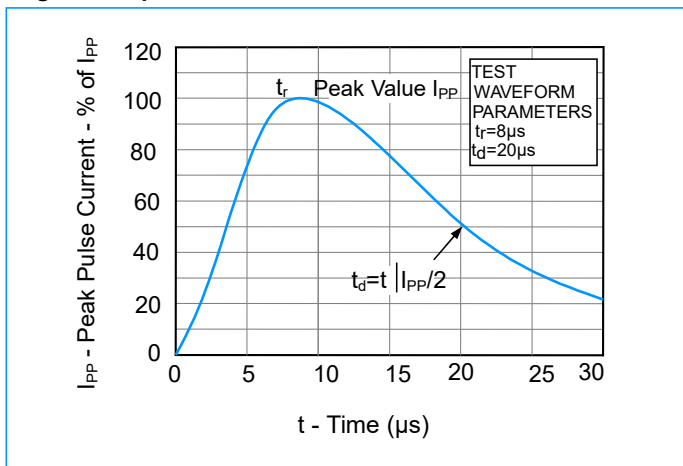


Fig2. Power Rating Derating Curve

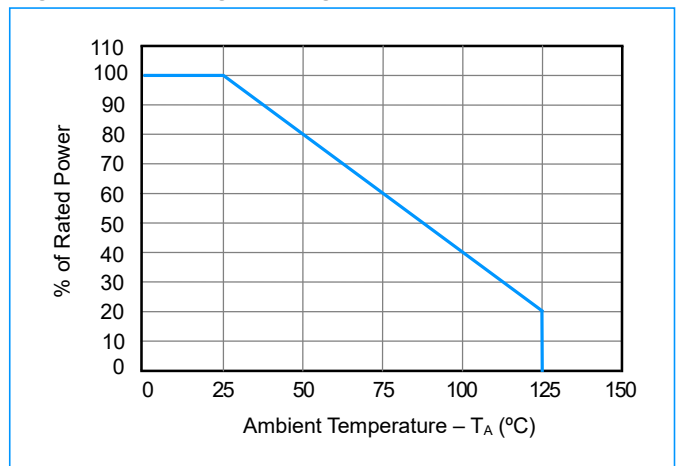


Fig3. ESD Pulse Waveform (according to IEC 61000-4-2)

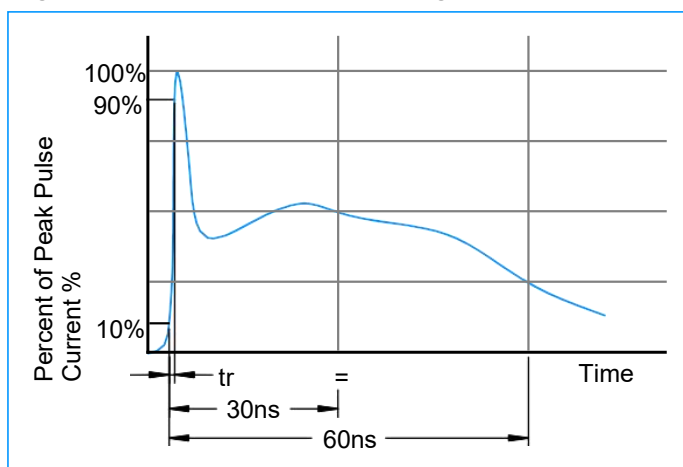
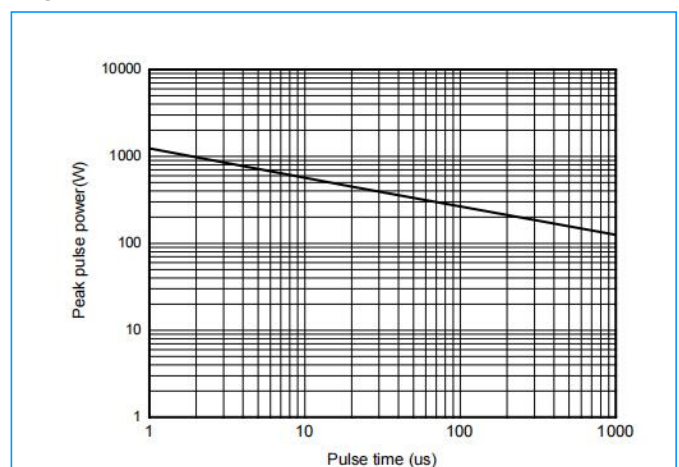


Fig4. Peak pulse power vs. Pulse time

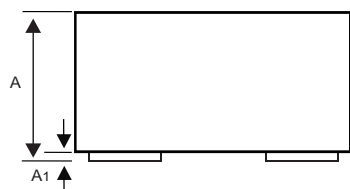
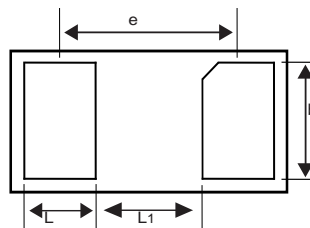
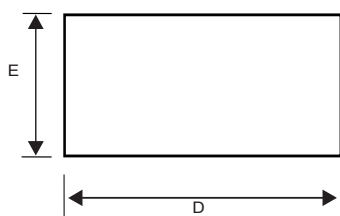


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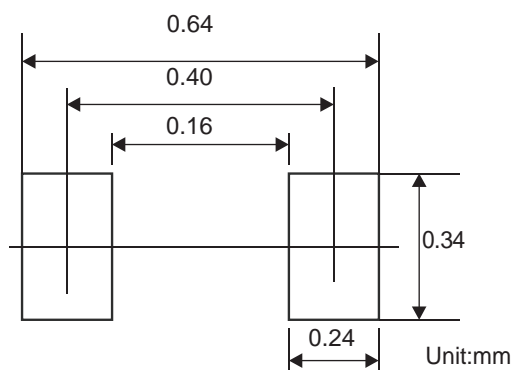
ESD05V02D-LA

0201/DFN0603 Package Outline & Dimensions

0201/DFN0603



Suggested PAD Layout



Symbol	Millimeters		
	Min	Nom	Max
A	0.270	0.300	0.340
A1	0	0.020	0.050
D	0.550	0.600	0.650
E	0.250	0.300	0.350
e	0.340REF		
L	0.140	0.180	0.240
b	0.200	0.250	0.300
L1	0.150REF		

Ordering Information

Device	Marking	Package	Quantity	Reel Size
ESD05V02D-LA	L5	0201/DFN0603	12,000pcs/Reel	7 inch