

# ESD05V02D-LC

ROHS

## Transient Voltage Suppressors for ESD Protection

### Description

The ESD05V02D-LC is a silicon base in ultra small surface-Mounted Device (SMD) special packages. It is designed to protect sensitive electronics from damage or latch up due to Electrostatic Discharge (ESD), lightning, and other voltage induced transient events. TVS diode designed to protect one power/control line or one signal line from over voltage hazard of Electrostatic Discharge (ESD).

### Features

- ◆ Bidirectional ESD Protection of one line;
- ◆ Low Capacitance 0.5 pF
- ◆ Low clamping voltage;
- ◆ Ultra small SMD special packages
- ◆ Nominal Dimensions: 0.6x0.3x0.26mm
- ◆ ESD protection to IEC61000-4-2(ESD):
  - ±15kV (air discharge)
  - ±8kV (contact discharge)

### Applications

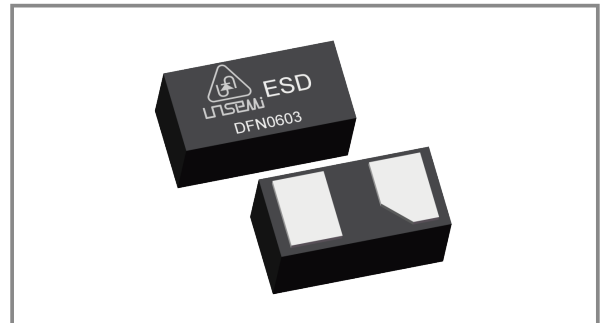
- ◆ Cell Phone Handsets and Accessories
- ◆ Microprocessor based equipment
- ◆ Communication systems ;
- ◆ Notebooks (DVI/HDMI);
- ◆ Portable Instrumentation;
- ◆ Audio and video equipment
- ◆ Digital Camera;

### Mechanical Characteristics

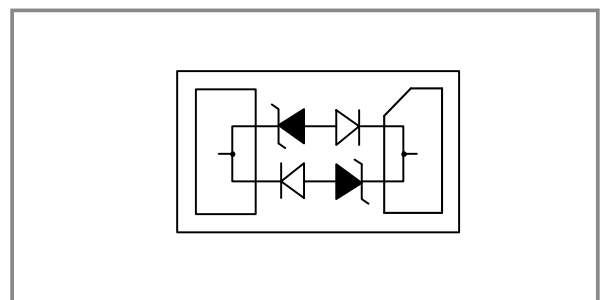
Parameter	Symbol	Value	Units
Peak Pulse Power (Tp=8/20μs waveform)	PP	45	Watts
Lead Soldering Temperature	TL	260 (10 sec.)	°C
Storage Temperature Range	TSTG	-55 to +150	°C
Operating Junction Temperature Range	TJ	-40 to +125	°C



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### Functional Diagram



### Mechanical Data

- ◆ JEDEC0201/DFN0603 Package
- ◆ Molding Compound Flammability Rating: UL94V-O
- ◆ Weight 0.3 Milligrams (Approximate)
- ◆ Mounting position: Any

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	--	--	V
Reverse Leakage Current	$I_R$	$V_{RWM}=5.0V$ ; $T=25^\circ C$	--	--	1.0	$\mu A$
Junction Capacitance	$C_J$	$V_R=0V$ , $f=1MHz$ ;	--	0.5	--	pF
Clamping Voltage	$V_C$	$I_{PP}=1.0A$ , $T_P=8/20\mu s$ ;	--	--	12.0	V
		$I_{PP}=3.0A$ , $T_P=8/20\mu s$ ;	--	--	15.0	V

Characteristic Curves

Fig1. 8/20 $\mu s$  Pulse Waveform

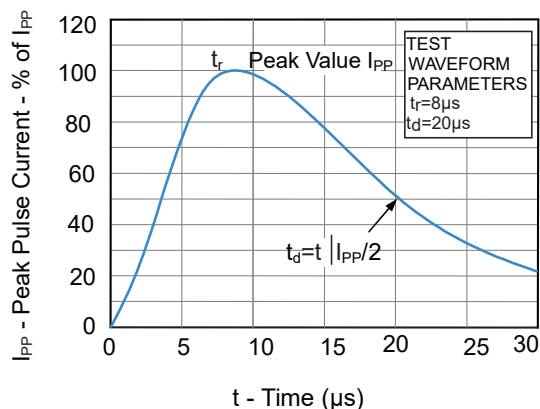


Fig2. Power Rating Derating Curve

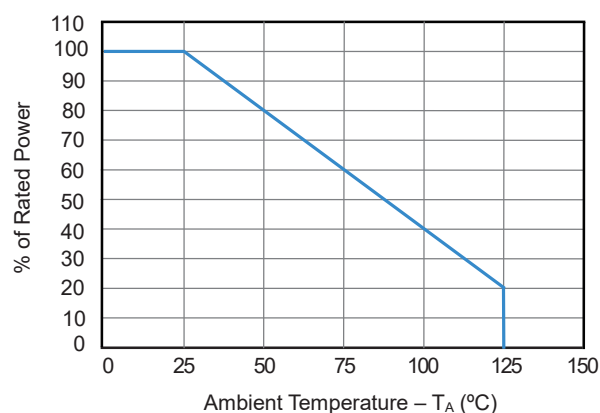
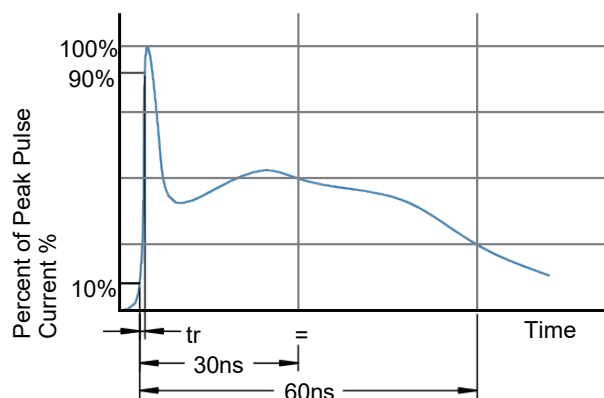
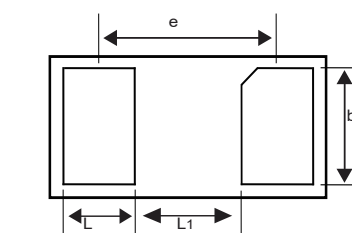
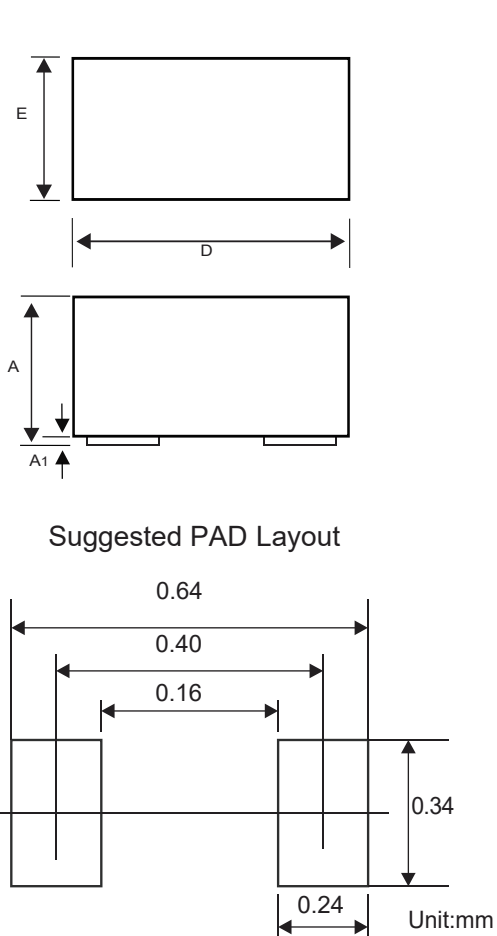


Fig3. Clamping Voltage vs. Peak Pulse Current



## 0201/DFN0603 Package Outline & Dimensions

0201/DFN0603



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-LC	5L	0201/DFN0603	12,000pcs/Reel	7 inch

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