

ESD03V32D-LCC

ROHS

Transient Voltage Suppressors for ESD Protection

Description

The ESD03V32D-LCC is 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).

Features

- ◆ 340 Watts Peak Pulse Power per Line ($t_p=8/20\mu s$)
- ◆ Protects one Bidirectional I/O line
- ◆ Low Clamping Voltage
- ◆ Working voltages: 3.3V
- ◆ Low leakage current
- ◆ IEC61000-4-2(ESD) ± 30 kV (air discharge),
 ± 30 kV (contact discharge);
- ◆ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ IEC61000-4-5 (LIGHTING) 20A (8/20 μs)

Applications

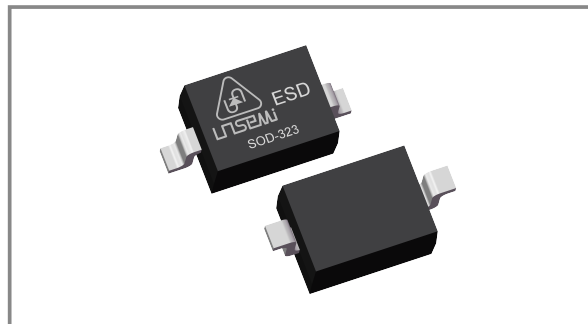
- ◆ Ethernet - 10/100/1000 Base T
- ◆ Cell phone handsets and accessories
- ◆ Notebooks, desktops, and servers
- ◆ Parallel & Serial Port Protection
- ◆ Personal digital assistants (PDA)
- ◆ Portable instrumentation
- ◆ USB interface

Mechanical Characteristics

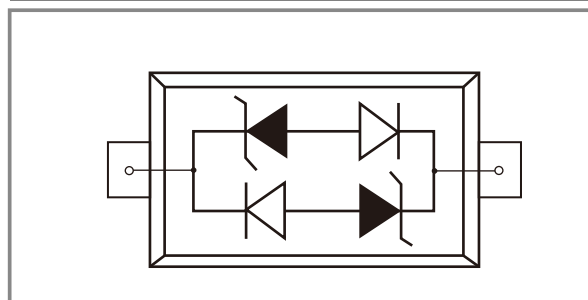
Parameter	Symbol	Value	Units
Peak Pulse Power ($T_p=8/20\mu s$ waveform)	P_{pp}	340	Watts
Lead Soldering Temperature	T_L	260 (10 sec.)	$^{\circ}C$
Storage Temperature Range	T_{STG}	-55 to +150	$^{\circ}C$
Operating Junction Temperature Range	T_J	-40 to +125	$^{\circ}C$



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Functional Diagram



Mechanical Data

- ◆ SOD-323 Package
- ◆ Molding Compound Flammability Rating : UL 94V-O
- ◆ Weight 5.0 Milligrams (Approximate)
- ◆ Lead Finish : Lead Free

Electrical Characteristics @ 25°C Unless Otherwise Specified)

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse Working Voltage	V_{RWM}	--	--	--	3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$;	4.0	--	--	V
Reverse Leakage Current	I_R	$V_{RWM}=3.3V$, $T=25^\circ C$;	--	--	0.1	μA
Junction capacitance	C_J	$V_R=0V$, $f=1MHz$;	--	1.0	1.5	pF
Clamping Voltage	V_C	$I_{PP}=1A$, $T_P=8/20\mu s$;	--	--	8.0	V
		$I_{PP}=5A$, $T_P=8/20\mu s$;	--	--	10.0	V
		$I_{PP}=20A$, $T_P=8/20\mu s$;	--	--	17.0	V

Characteristic Curves

Fig1. 8/20 μs Pulse Waveform

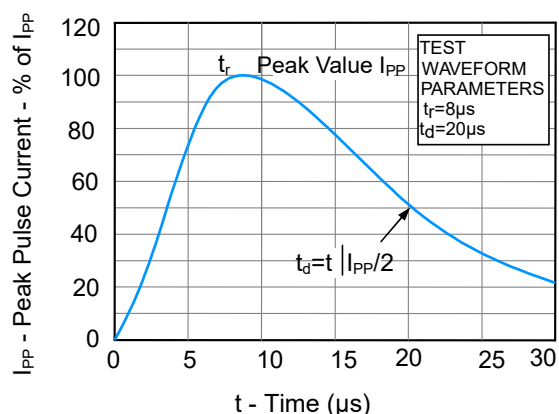


Fig2. Power Rating Derating Curve

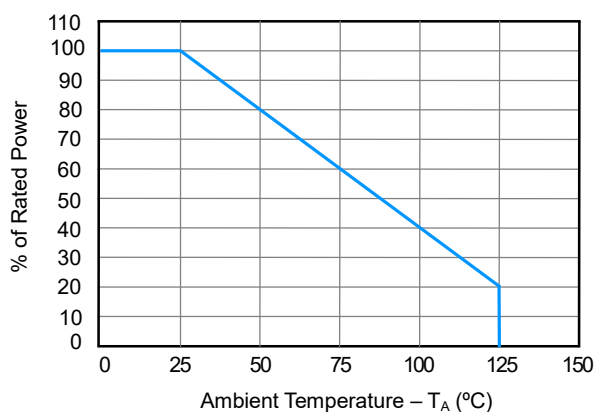
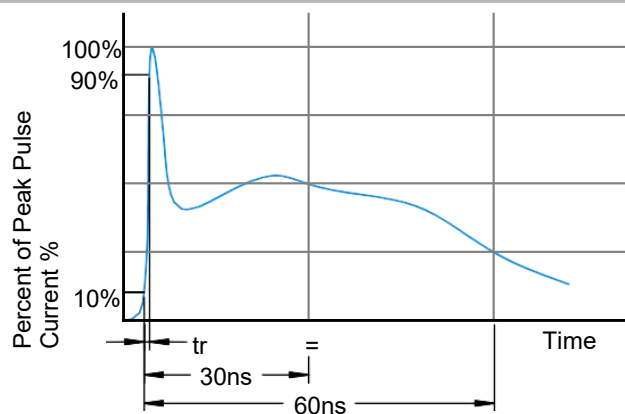
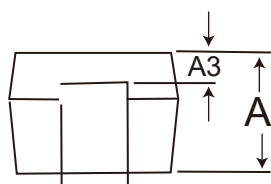
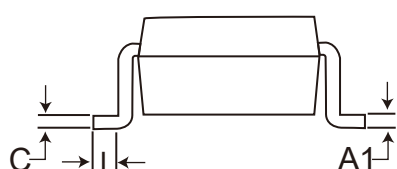
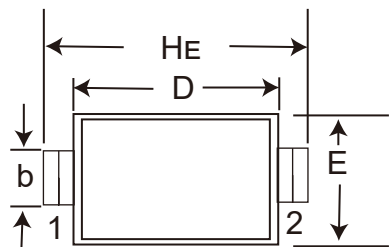


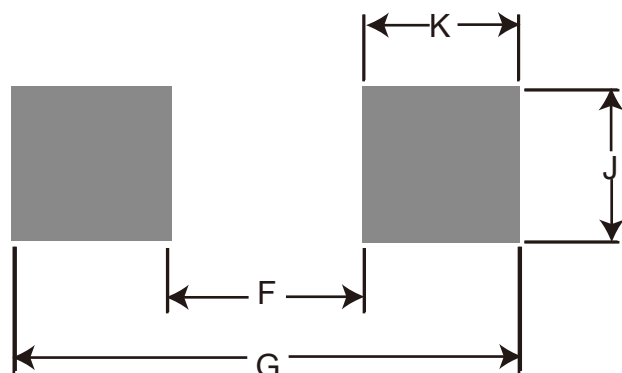
Fig3. ESD Pulse Waveform (according to IEC61000-4-2)



SOD-323 Package Outline & Dimensions



Soldering Footprint



Symbol	Millimeters			Inches		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	0.80	0.90	1.00	0.031	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A3	0.15REF			0.006REF		
b	0.25	0.32	0.40	0.010	0.012	0.016
c	0.089	0.12	0.177	0.003	0.005	0.007
D	1.60	1.70	1.80	0.062	0.066	0.070
E	1.15	1.25	1.35	0.045	0.049	0.053
L	0.08			0.003		
HE	2.30	2.50	2.70	0.090	0.098	0.105

Symbol	Millimeters	Inches
F	1.60	0.063
G	2.85	0.112
J	0.83	0.033
K	0.63	0.025

Ordering Information

Device	Marking	Package	Quantity	Reel Size
ESD03V32D-LCC	CC	SOD-323	3,000pcs/Reel	7 inch

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