

ESD03V32D-LCA

ROHS

Transient Voltage Suppressors for ESD Protection

Description

The ESD03V32D-LCA is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its small size, low capacitance values, it is very suitable for signal port and board space speed transmission is very small places, such as Ethernet, mobile phones, MP3 players, digital cameras and other portable.

Features

- ◆ 221 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) 13A (8/20 μs)

Applications

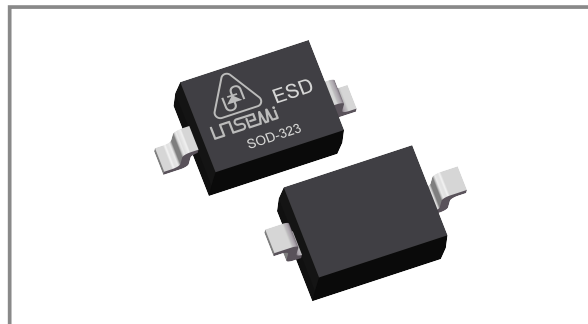
- ◆ Ethernet - 10/100/1000 Base T
- ◆ Cellular Phones
- ◆ I²C Bus Protection
- ◆ Parallel & Serial Port Protection
- ◆ Personal Digital Assistant (PDA)
- ◆ Microcontroller Input Protection
- ◆ ISDN S/T Interface

Mechanical Characteristics

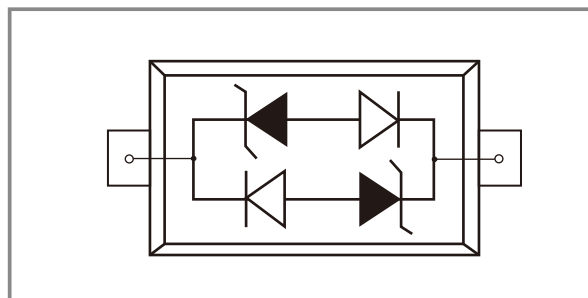
Parameter	Symbol	Value	Units
Peak Pulse Power ($T_p=8/20\mu s$ waveform)	P_{pp}	221	Watts
Lead Soldering Temperature	T_L	260 (10 sec.)	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C
Operating Junction Temperature Range	T_J	-40 to +125	°C



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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}	$I_T=1mA$;	3.5	--	--	V
Reverse Leakage Current	I_R	$V_{RWM}=3.3V$, $T=25^{\circ}C$;	--	--	0.5	μA
Junction capacitance	C_J	$V_R=0V$, $f=1MHz$;	--	1.0	--	pF
Clamping Voltage	V_C	$I_{PP}=1A$, $T_P=8/20\mu s$;	--	6.0	8.0	V
		$I_{PP}=13A$, $T_P=8/20\mu s$;	--	15.0	17.0	V

Characteristic Curves

Fig1. 8/20 μs Pulse Waveform

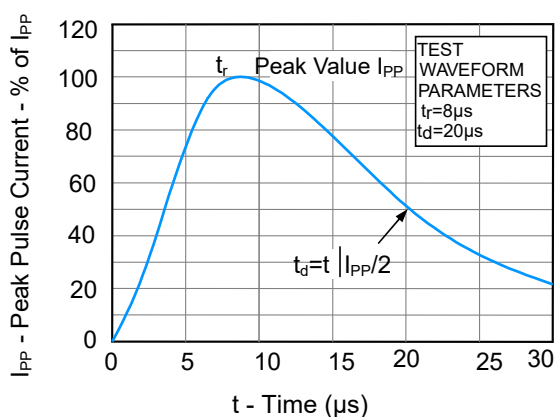


Fig2. Power Rating Derating Curve

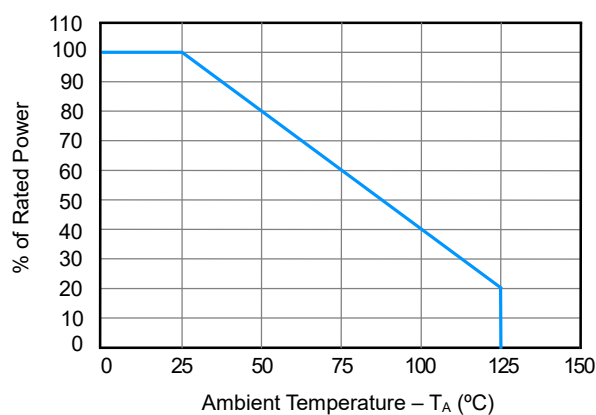
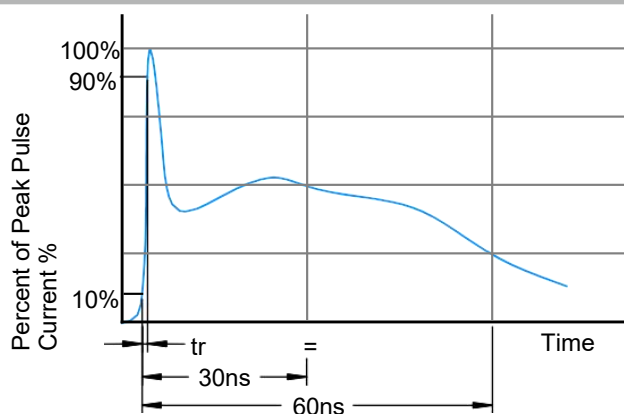
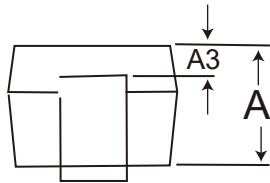
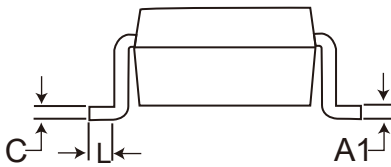
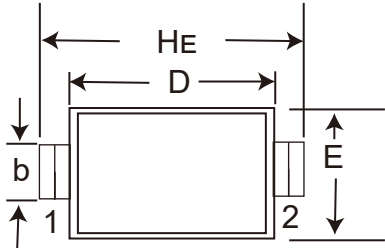


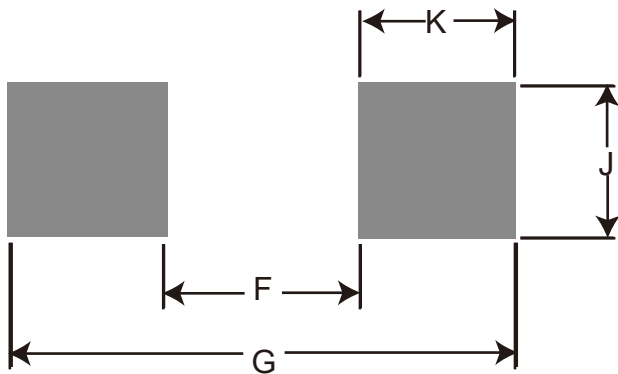
Fig3. ESD Pulse Waveform (according to IEC61000-4-2)



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-LCA	CA1	SOD-323	3,000pcs/Reel	7 inch

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