

# ESDXXV52DS-LCF Series

ROHS

## Transient Voltage Suppressors for ESD Protection

### Description

The ESDXXV52DS-LCF series is designed to protect voltage sensitive components from ESD and transient voltage Events. This product has been qualified in accordance with the Automotive Electronics Council (AEC) standard Q101 , It is suitable for use in automotive applications. 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.

### Features

- ◆ Moisture Sensitivity Level (MSL -1)
- ◆ AEC-Q101 qualified
- ◆ 100~234 Watts Peak Pulse Power per Line (tp=8/20µs)
- ◆ Protects one bidirectional I/O line
- ◆ Working Voltages: 3.3V~24V
- ◆ Low clamping voltage
- ◆ Low leakage current
- ◆ IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact): 3.3V~15V
- ◆ IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact): 18V~24V
- ◆ IEC61000-4-4 (EFT) 40A (5/50ns)

### Applications

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

### Mechanical Characteristics

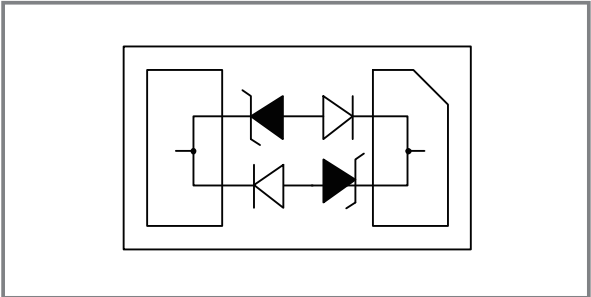
Parameter	Symbol	Value	Units
Peak Pulse Power (tp=8/20 u s waveform)	PPP	100-234	Watts
Operating Junction Temperature Range	TJ	-55 to +150	°C
Storage Temperature Range	TSTG	-55 to +150	°C
Soldering Temperature	TL	260	°C



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### Functional Diagram



### Mechanical Data

- ◆ DFN1610 Package(1.6x1.0x0.5mm)
- ◆ Molding Compound Flammability Rating : UL 94V-O
- ◆ Weight 3.5 Milligrams (Approximate)
- ◆ Lead Finish : Lead Free

### Electrical Characteristics @ 25°C Unless Otherwise Specified )

Part Number	Device Marking Code	Stand-Off Voltage $V_{RWM}$ (V)	Breakdown Voltage $V_{BR}$	Test Current $I_T$ (mA)	$V_C$ @1A (Max.)	$V_C$		Maximum Reverse Leakage $I_R$ @ $V_{RWM}$ (uA)	Typical Junction Capacitance (pF)
						(Max.)	(@A)		
ESD03V52DS-LCF	CL3	3.3	4.0	1.0	7.5	18	13	0.1	0.6
ESD05V52DS-LCF	CL5	5.0	6.0	1.0	9.8	20	11	0.1	0.6
ESD08V52DS-LCF	CL8	8.0	8.5	1.0	14.0	25	8	1.0	0.6
ESD12V52DS-LCF	CLA	12.0	13.3	1.0	19.0	30	5	1.0	0.6
ESD15V52DS-LCF	CLC	15.0	16.7	1.0	23.0	35	4	1.0	0.6
ESD18V52DS-LCF	CLD	18.0	20.0	1.0	27.0	38	3	1.0	0.6
ESD24V52DS-LCF	CLF	24.0	26.7	1.0	35.0	50	2	1.0	0.6

### Characteristic Curves

Fig1. 8/20μs Pulse Waveform

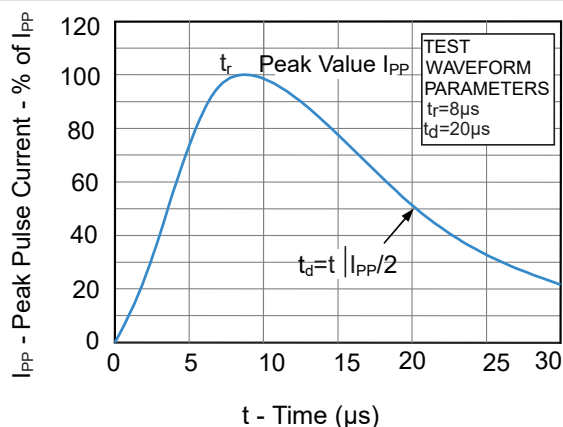


Fig2. Power Rating Derating Curve

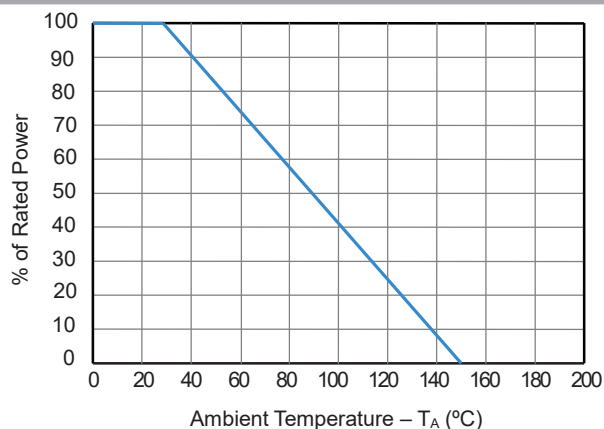
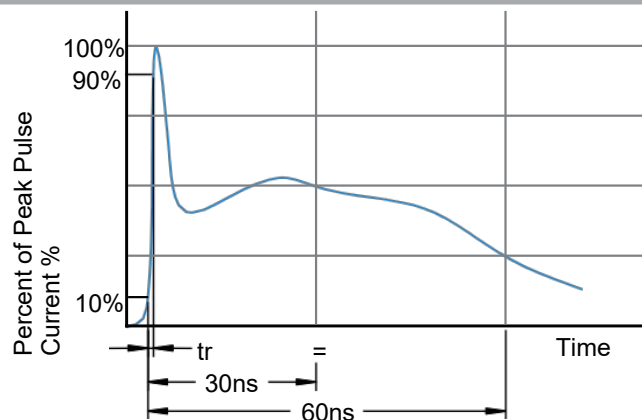
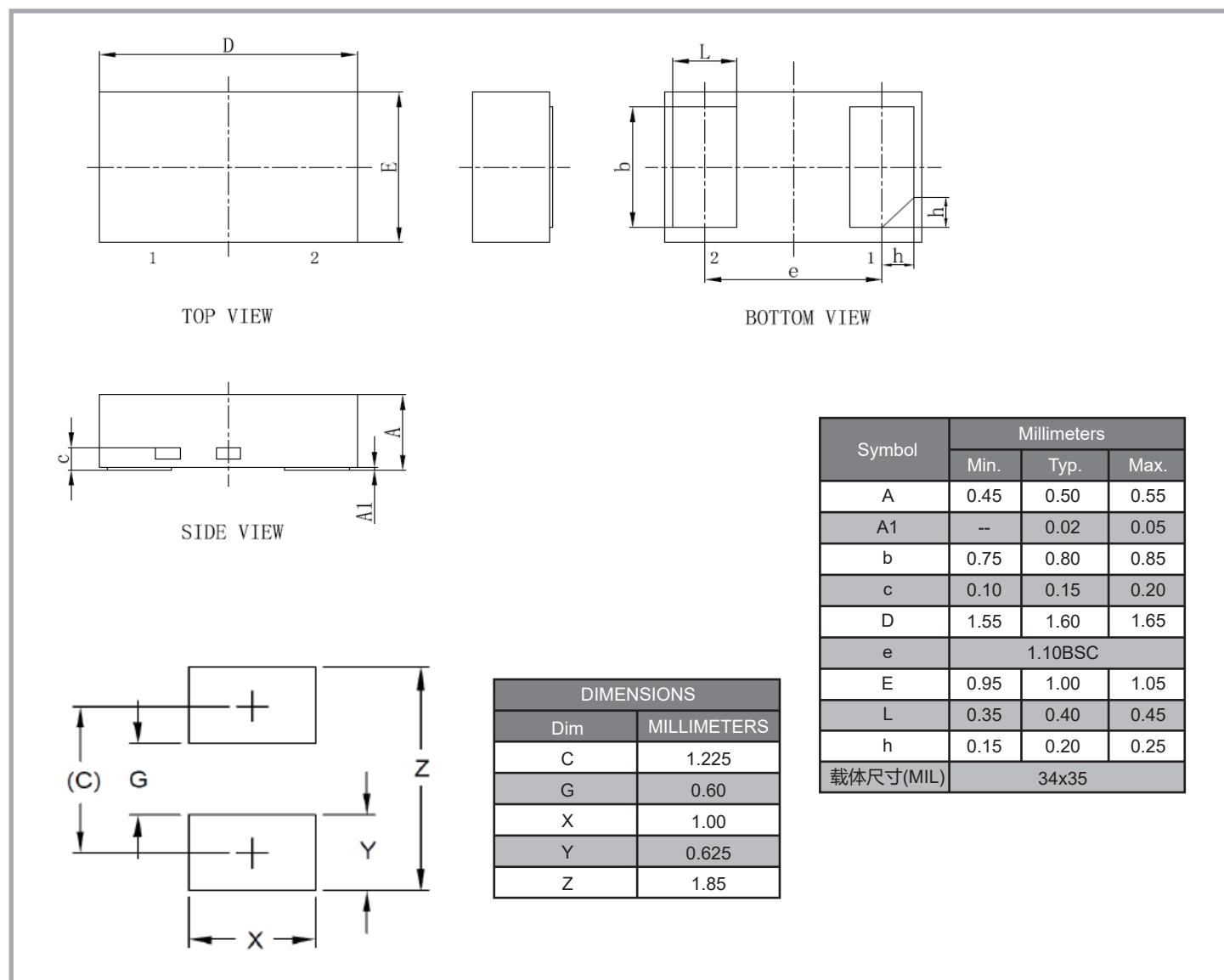


Fig3. ESD Pulse Waveform (according to IEC61000-4-2)



### DFN1610 Package Outline & Dimensions



### Ordering Information

Device	Package	Quantity	Reel Size
ESDXXV52DS-LCF Series	DFN1610	3,000pcs/Reel	7 inch

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