

## Transient Voltage Suppressors Array for ESD Protection

Low Capacitance

### ESDXXV08S-4L Series

#### Description

The ESDXXV08S-4L is in an SO-08 package and may be used to protect two high-speed line pairs. The “flow-thru” design minimizes trace inductance and reduces voltage overshoot associated with ESD events. The low clamping voltage of the ESDXXV08S-4L minimizes the stress on the protected IC.

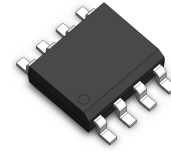
#### Feature

- ⌌ 500 Watts Peak Pulse Power per Line (tp=8/20μs)
- ⌌ Protects Four High Speed I/O lines
- ⌌ Low capacitance (5pF) for high-speed interfaces
- ⌌ Low clamping and operating voltage
- ⌌ RoHS Compliant
- ⌌ IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- ⌌ IEC61000-4-4 (EFT) 40A (5/50ns)
- ⌌ IEC61000-4-5 (Lightning) 24A (8/20μs)

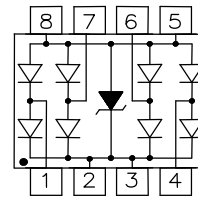
#### Applications

- ⌌ USB Power and Data Line Protection
- ⌌ T1/E1 secondary IC Side Protection
- ⌌ T3/E3 secondary IC Side Protection
- ⌌ HDSL, SDSL secondary IC Side Protection
- ⌌ Video Line Protection
- ⌌ Microcontroller Input Protection
- ⌌ Base stations
- ⌌ I<sup>2</sup>C Bus Protection

SO-08



#### Functional Diagram



#### Mechanical Characteristics

- ⌌ JEDEC SO-08 Package
- ⌌ Molding Compound Flammability Rating : UL 94V-0
- ⌌ Weight 70 Milligrams (Approximate)
- ⌌ Quantity Per Reel : 2,500pcs
- ⌌ Reel Size : 13 inch
- ⌌ Lead Finish : Lead Free

#### Mechanical Characteristics

Symbol	Parameter	Value	Units
PP <sub>P</sub>	Peak Pulse Power (tp=8/20μs waveform)	500	W
T <sub>L</sub>	Lead Soldering Temperature	260 (10sec)	°C
T <sub>STG</sub>	Storage Temperature Range	-55 to +150	°C
T <sub>J</sub>	Operating Temperature Range	-55 to +150	°C
	IEC61000-4-2 (ESD)		
	Air Discharge	±15	KV
	Contact Discharge	±8	
	IEC61000-4-4 (EFT)	40	A
	IEC61000-4-5 ( Lightning )	24	A

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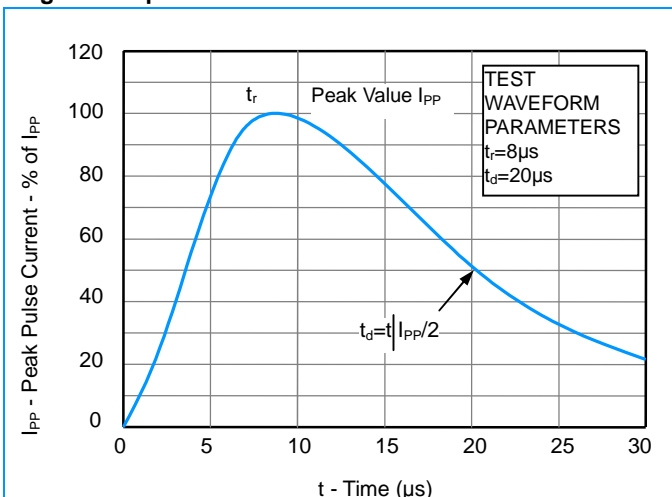
**ESDXXV08S-4L Series**

Electrical Characteristics (@ 25°C Unless Otherwise Specified)

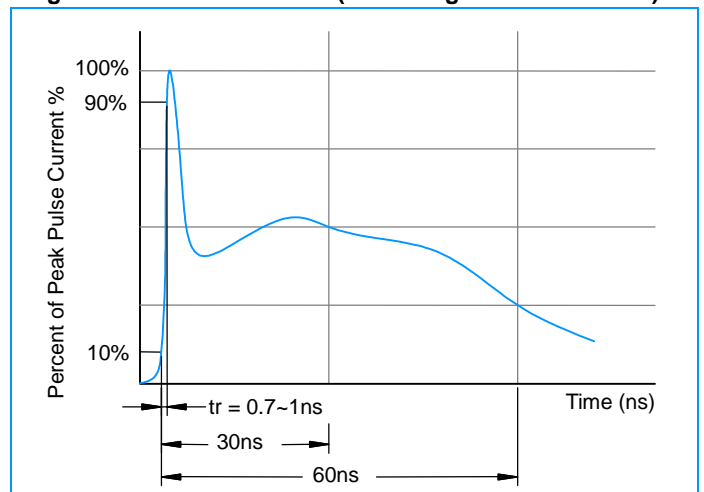
Part Number	Device Marking	V <sub>RWM</sub> (V) (Max.)	V <sub>B</sub> (V) (Min.)	I <sub>T</sub> (mA)	V <sub>C</sub> @5A (Max.)	V <sub>C</sub>		I <sub>R</sub> (μA) (Max.)	C (pF) (Typ.)
						(Max.)	(@A)		
ESD3.3V08S-4L	SRDA 3.3-4	3.3	4	1	6.5	15.5	27	40	5
ESD05V08S-4L	SRDA 05-4	5	6	1	9.8	19	24	5	5
ESD12V08S-4L	SRDA 12-4	12	13.3	1	19	29	18	1	5
ESD15V08S-4L	SRDA 15-4	15	16.7	1	24	32	15	1	5

**Characteristic Curves**

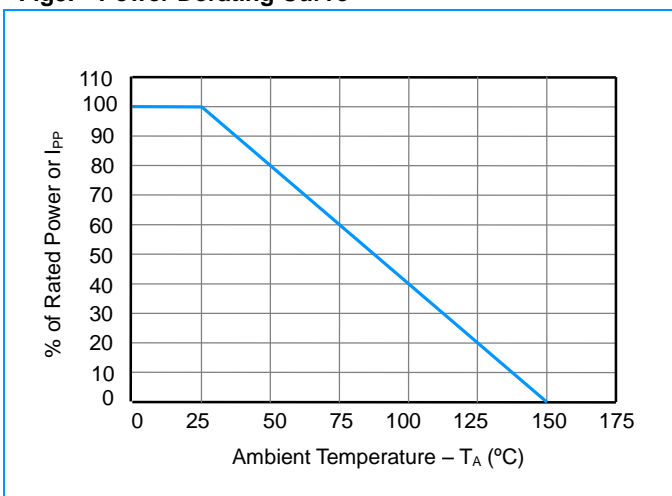
**Fig1. 8/20μs Pulse Waveform**



**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**



**Fig3. Power Derating Curve**



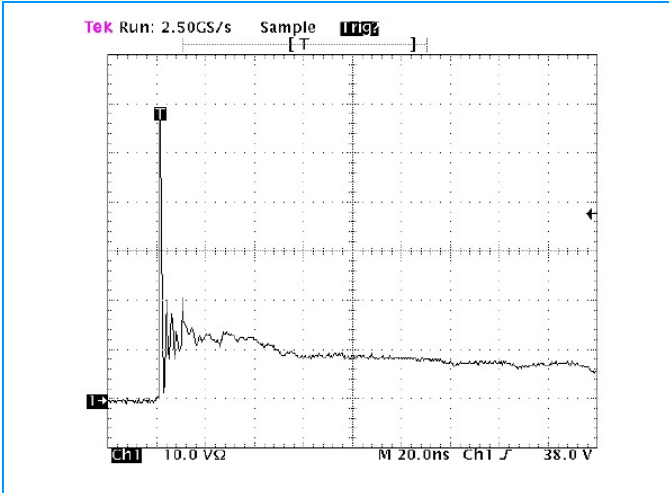
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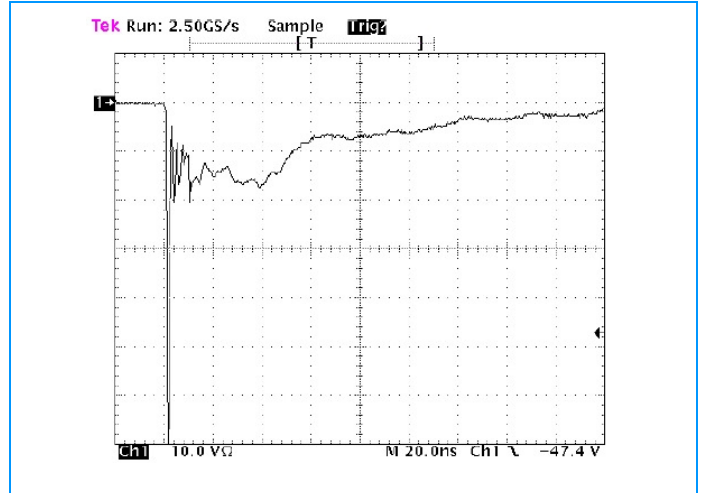
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**Characteristic Curves**

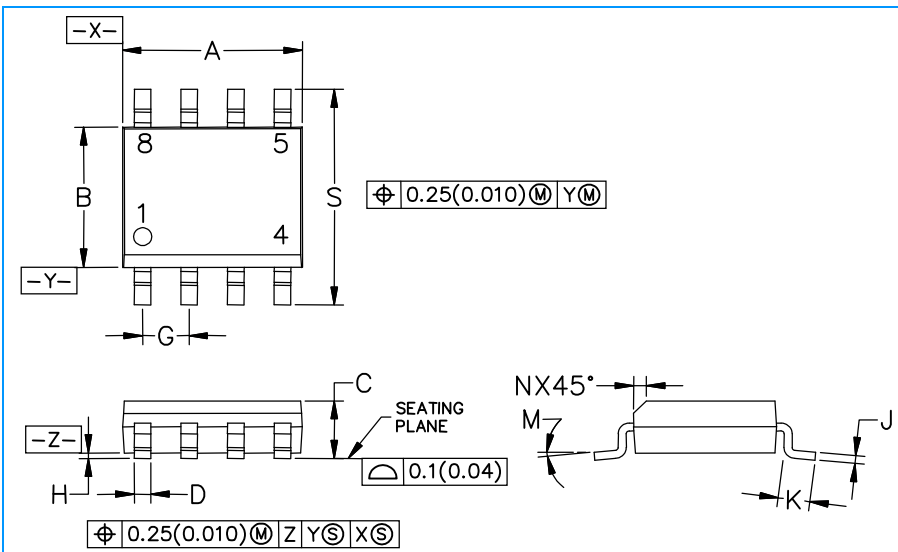
**Fig4. ESD Clamping (+8KV Contac per IEC61000-4-2)**



**Fig5. ESD Clamping (-8KV Contac per IEC61000-4-2)**



**SO-8 Package Outline & Dimensions**



DIM	Millimeters		Inches	
	Min	Max	Min	Max
A	4.80	5.00	0.189	0.197
B	3.80	4.00	0.150	0.157
C	1.35	1.75	0.053	0.069
D	0.35	0.51	0.013	0.020
G	1.27BSC		0.050BSC	
H	0.10	0.25	0.004	0.010
J	0.19	0.25	0.007	0.010
K	0.40	1.27	0.016	0.050
M	0°	8°	0°	8°
N	0.25	0.50	0.010	0.020
S	5.80	6.20	0.228	0.244

**Soldering Footprint**

