Transient Voltage Suppressors Array for ESD Protection

ESDXXV08S-4C Series

Description

The ESDXXV08S-4C 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-4C minimizes the stress on the protected IC.

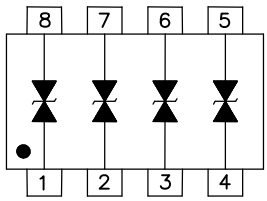
SO-08



Feature

- 500 Watts Peak Pulse Power per Line (tp=8/20μs)
- Protects four bidirectional I/O lines
- Low clamping voltage
- Working voltages : 3.3V, 5V, 12V, 15V and 24V
- Low leakage current
- IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ηs)
- IEC61000-4-5 (Lightning) 12A (8/20μs)

Functional Diagram



Applications

- RS-232, RS-422 & RS-423 Data Lines
- Audio/Video Inputs
- Wireless Network Systems
- Digit Video Interface (DVI)
- Medical Sensors
- Notebook Computers

Mechanical Characteristics

- JEDEC SO-08 Package
- Molding Compound Flammability Rating : UL 94V-0
- Weight 70 Milligrams (Approximate)
- Quantity Per Reel :3,000pcs
- Reel Size : 13 inch
- Lead Finish : Lead Free

Mechanical Characteristics

Symbol	Parameter	Value	Units
P_{PP}	**Peak Pulse Power (tp=8/20μs waveform)**	500	W
T_L	**Lead Soldering Temperature**	260 (10sec)	°C
T_{STG}	**Storage Temperature Range**	-55 to +150	°C
T_J	**Operating Temperature Range**	-55 to +150	°C
	IEC61000-4-2 (ESD) **Air Discharge** **Contact Discharge**	±15 ±8	KV
	IEC61000-4-4 (EFT)	40	A
	IEC61000-4-5 (Lightning)	12	A

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Electrical Characteristics (@ 25℃ Unless Otherwise Specified)

Part Number	Device Marking	V_{RWM} (V) (Max.)	V_B (V) (Min.)	I_T (mA)	V_C @5A (Max.)	V_C		I_R (μA) (Max.)	C (pF) (Typ.)
						(Max.)	(@A)		
ESD3.3V08S-4C	SMDA 33C	3.3	4.0	1	6.5	10.9	5	75	450
ESD05V08S-4C	SMDA 05C	5.0	6.0	1	9.8	13.5	5	5	300
ESD12V08S-4C	SMDA 12C	12.0	13.3	1	19.0	25.9	5	1	100
ESD15V08S-4C	SMDA 15C	15.0	16.7	1	24.0	30.0	5	1	80
ESD24V08S-4C	SMDA 24C	24.0	26.7	1	43.0	49.0	5	1	50

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

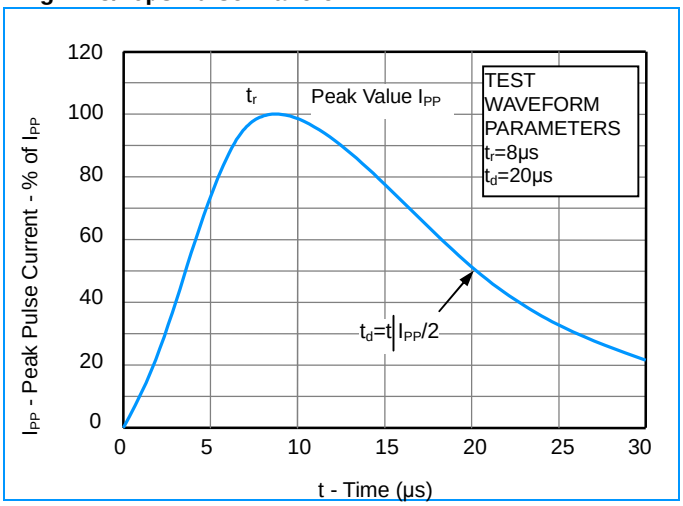


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

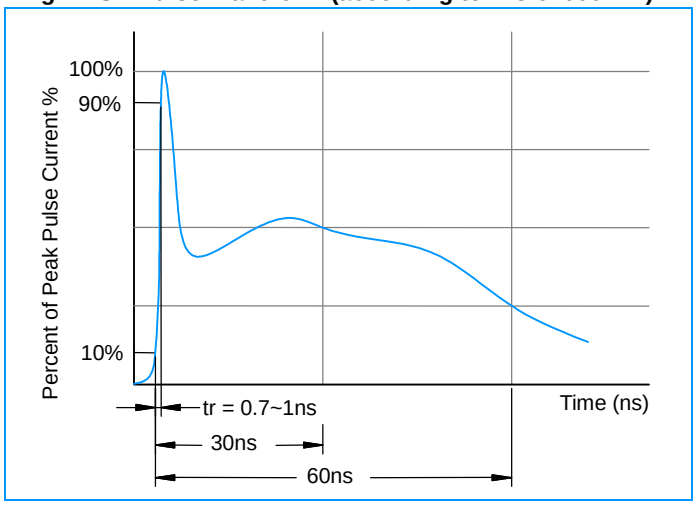
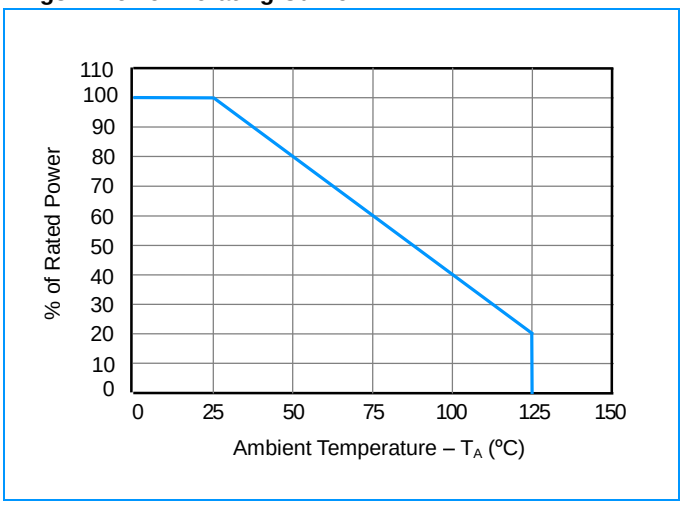


Fig3. Power Derating Curve



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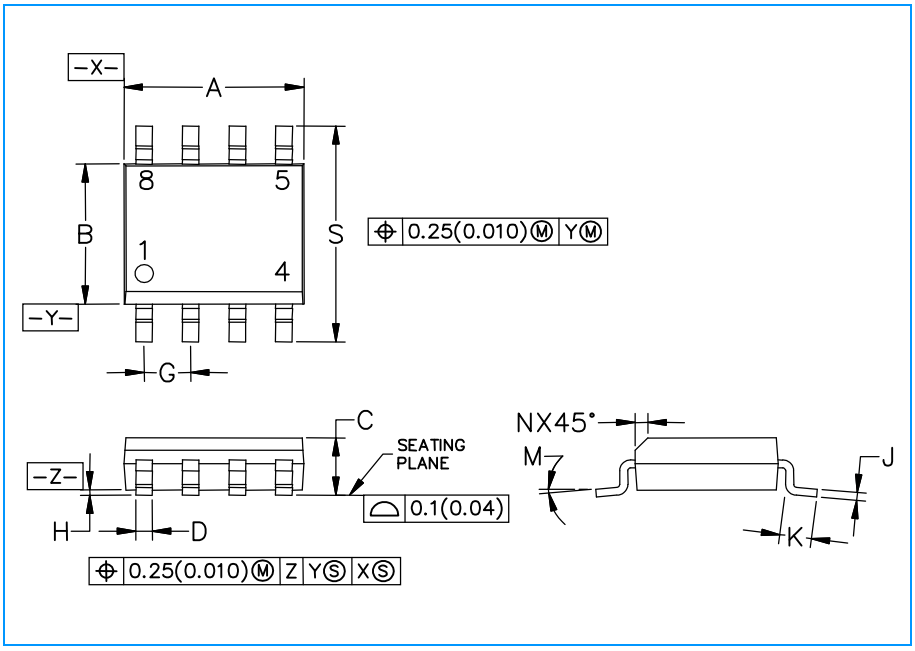
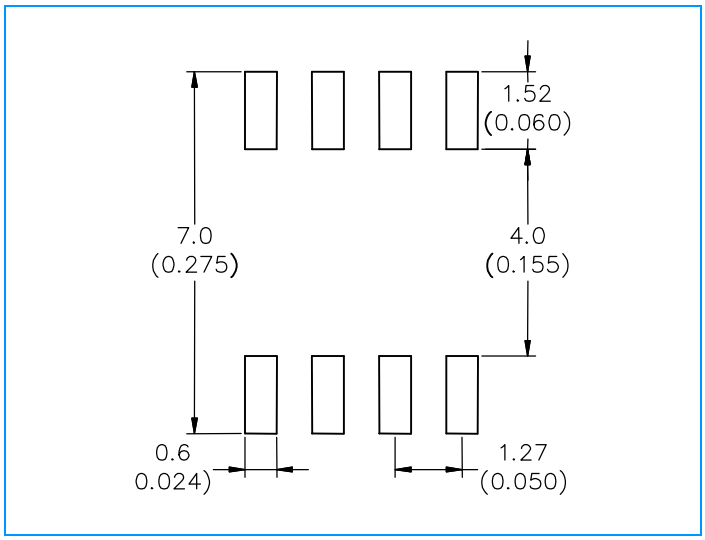
SO-08 Package Outline & Dimensions



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



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