

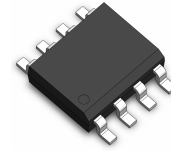
Transient Voltage Suppressors Array for ESD Protection

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.

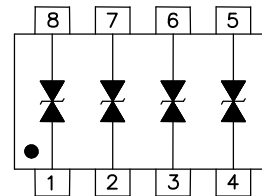
SO-08



Feature

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

Functional Diagram



Applications

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

Mechanical Characteristics

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

Mechanical Characteristics

| Symbol | Parameter | Value | Units | |
|------------------|---------------------------------------|------------------------------------|-----------|----|
| PPP | 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°C 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

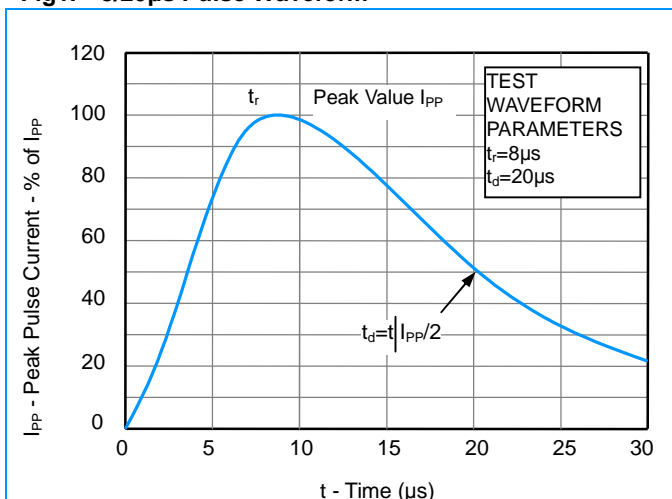


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

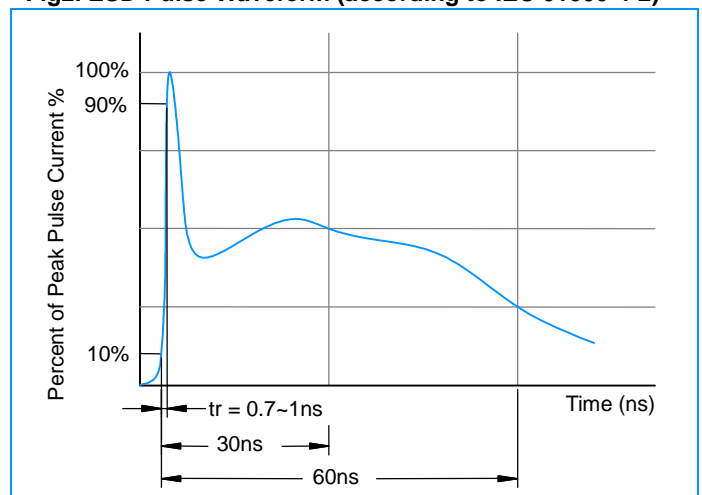
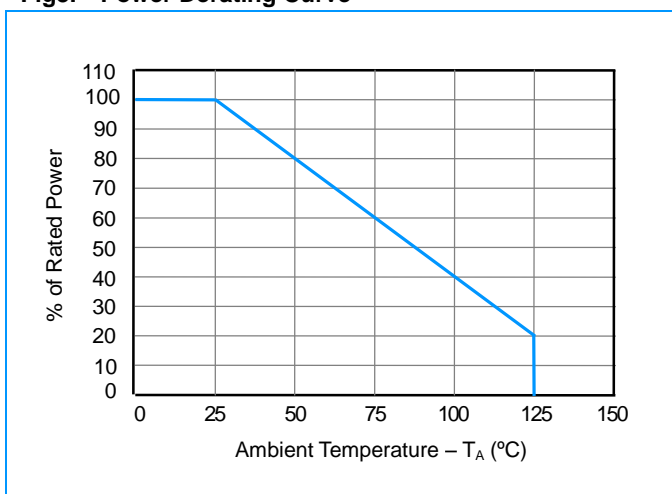


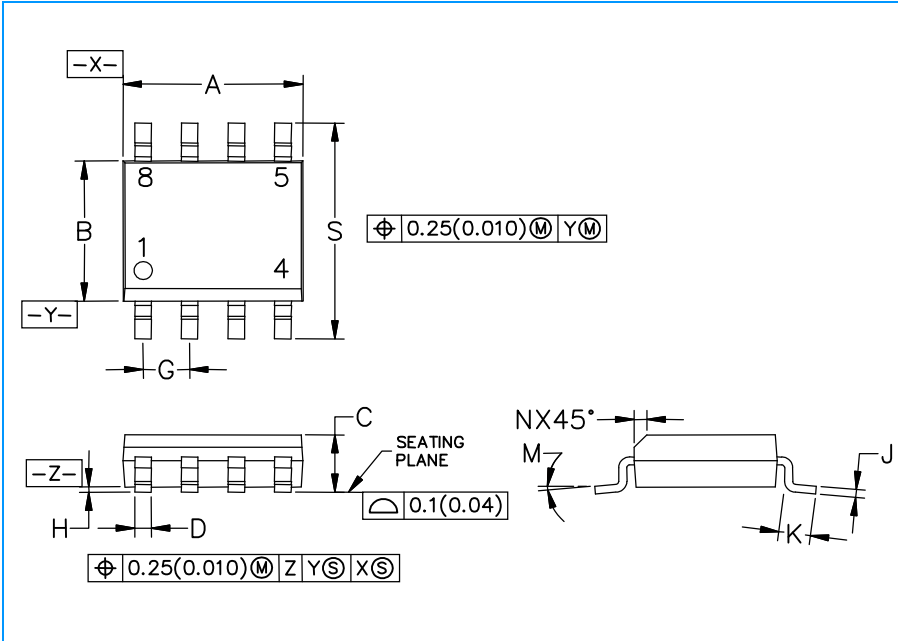
Fig3. Power Derating Curve



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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

