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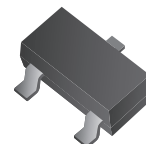
sales@integrated-circuit.com

SMD ESD Protection Diode



CPDV3-5V0U-HF

RoHS Device
 Halogen Free



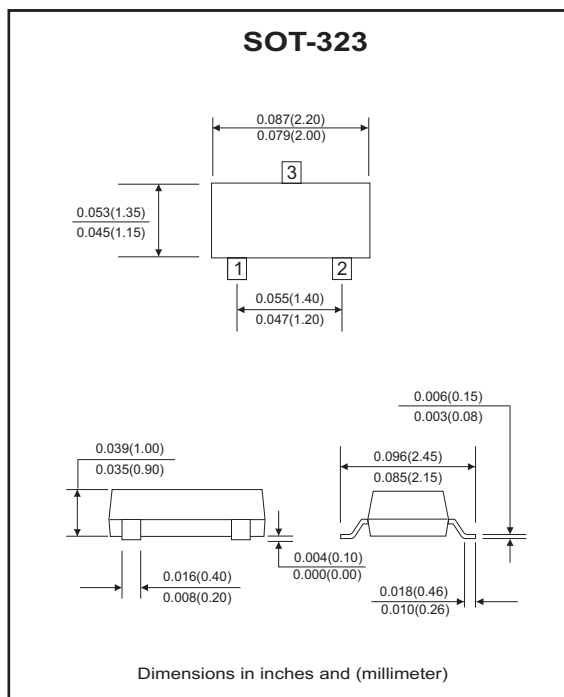
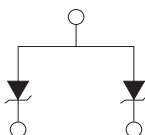
Features

- IEC61000-4-2 Level 4 ESD protection.
- Surface mount package.
- High component density.

Mechanical data

- Case: SOT-323 Standard package, molded plastic.
- Terminals: Solderable per MIL-STD-750, method 2026.
- Marking code: E5U
- Mounting position: Any.
- Weight: 0.0055 gram (approx.).

Circuit diagram



Maximum Rating and Electrical Characteristics

(at TA=25°C unless otherwise noted)

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|-------------------------|------------------|--|-----|-----|---------|------|
| Diode breakdown voltage | V _{BD} | I _R = 1mA | 6.1 | | | V |
| Leakage current | I _L | V _R = 3V | | 0.1 | 1.0 | uA |
| Forward voltage | V _F | I _F = 10mA | | | 1.2 | V |
| Junction capacitance | C _T | V _R = 0V, f = 1MHz | | 60 | 80 | pF |
| ESD capability | ESD | IEC 61000-4-2(air) IEC 61000-4-2(contact) | | | 15 8 | kV |
| Clamping voltage | V _C | I _{PP} = 1A, T _P =8/20us I _{PP} = 8A, T _P =8/20us | | | 8 10 | V |
| Peak pulse power | P _{PP} | | | | 80 | W |
| Operation temperature | T _J | | | | 125 | °C |
| Storage temperature | T _{STG} | | -55 | | 150 | °C |

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RATING AND CHARACTERISTIC CURVES (CPDV3-5V0U-HF)

Fig. 1 - 8/20us Peak pulse current waveform acc. IEC 61000-4-5

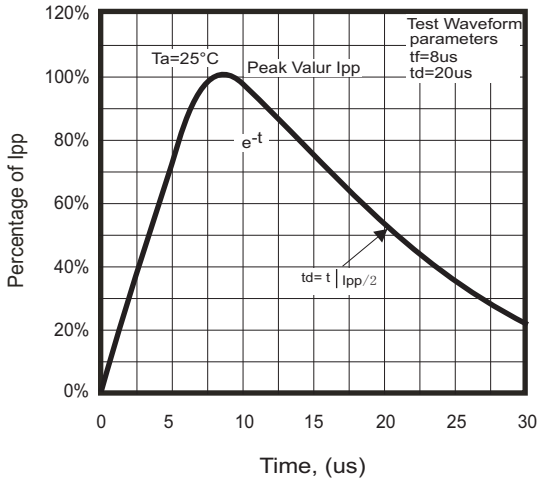


Fig. 2 - Power rating derating curve

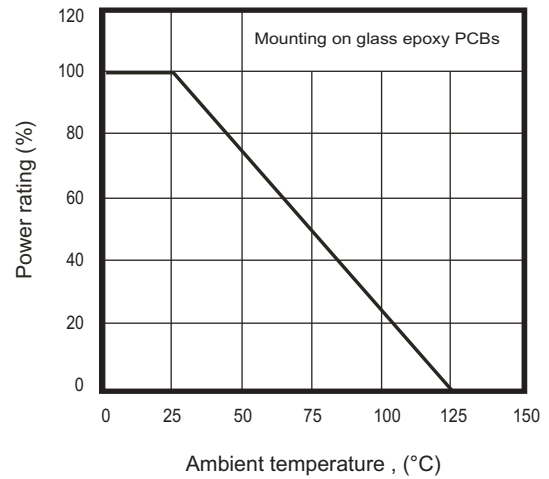


Fig. 3 - Clamping voltage vs. peak pulse current

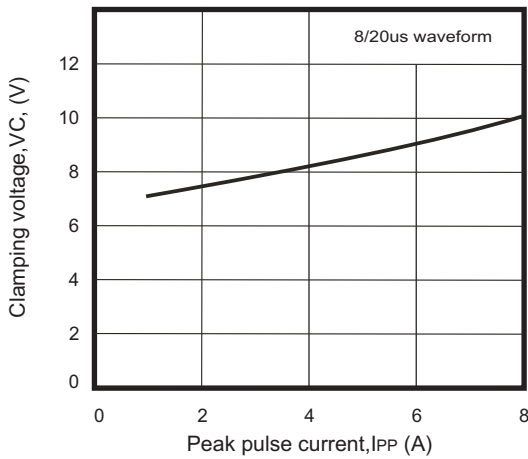
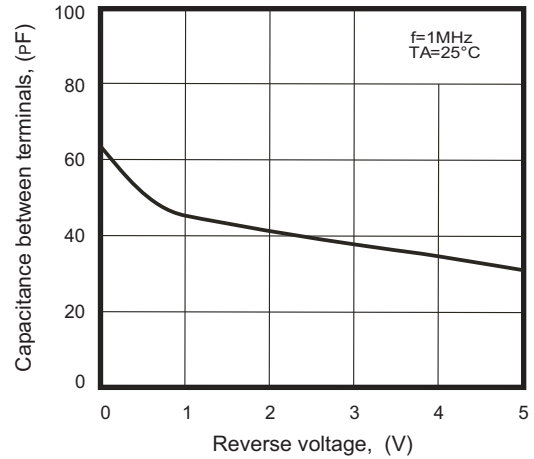


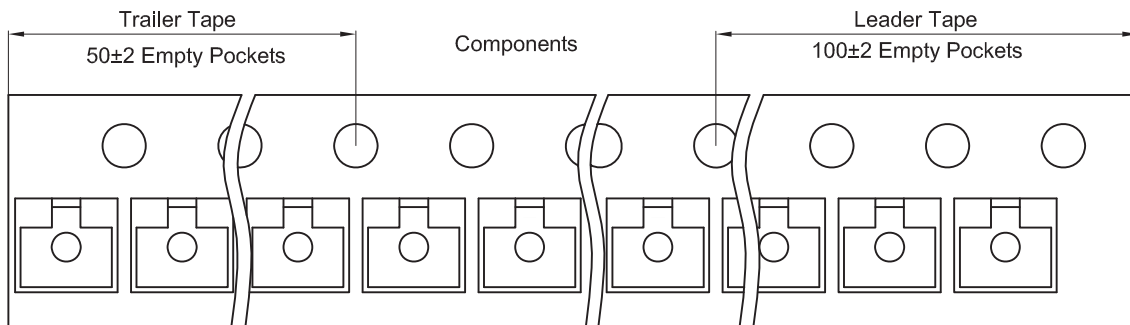
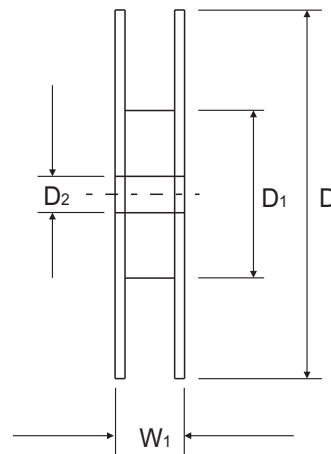
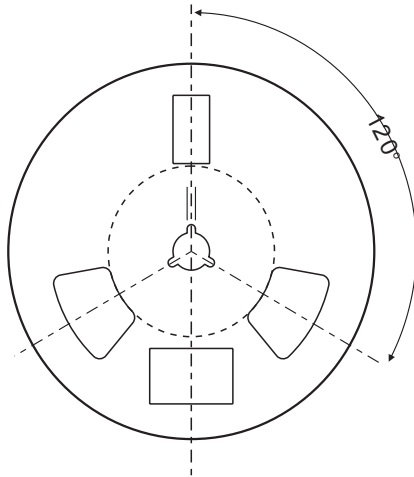
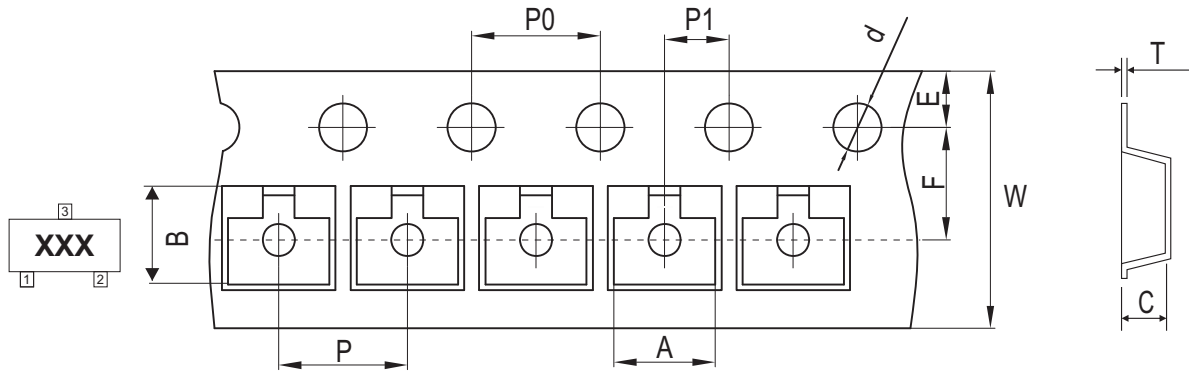
Fig. 4 - Capacitance between terminals characteristics



SMD ESD Protection Diode



Reel Taping Specification



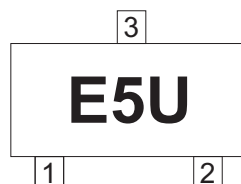
| SOT-323 | SYMBOL | A | B | C | d | D | D1 | D2 |
|---------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | (mm) | 2.25 ± 0.05 | 2.55 ± 0.05 | 1.19 ± 0.05 | 1.55 ± 0.10 | 178 ± 2.00 | 54.40 ± 1.00 | 13.00 ± 1.00 |
| | (inch) | 0.089 ± 0.002 | 0.100 ± 0.002 | 0.047 ± 0.002 | 0.061 ± 0.004 | 7.008 ± 0.079 | 2.142 ± 0.039 | 0.512 ± 0.039 |

| SOT-323 | SYMBOL | E | F | P | P0 | P1 | W | W1 |
|---------|--------|---------------|---------------|---------------|---------------|---------------|-------------------------|---------------|
| | (mm) | 1.75 ± 0.10 | 3.50 ± 0.10 | 4.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.10 | 8.00 + 0.30 / - 0.10 | 12.30 ± 1.00 |
| | (inch) | 0.069 ± 0.004 | 0.138 ± 0.004 | 0.157 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.004 | 0.315 + 0.012 / - 0.004 | 0.484 ± 0.039 |

SMD ESD Protection Diode

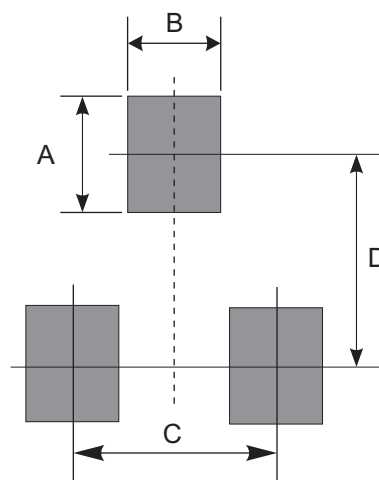
Marking Code

| Part Number | Marking Code |
|---------------|--------------|
| CPDV3-5V0U-HF | E5U |



Suggested PAD Layout

| SIZE | SOT-323 | |
|------|---------|--------|
| | (mm) | (inch) |
| A | 0.80 | 0.031 |
| B | 0.50 | 0.020 |
| C | 1.30 | 0.051 |
| D | 2.20 | 0.087 |



Standard Packaging

| Case Type | REEL PACK | |
|-----------|--------------|------------------|
| | REEL (pcs) | Reel Size (inch) |
| SOT-323 | 3,000 | 7 |