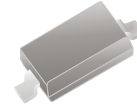


CPDV4V5-HF

RoHS Device
Halogen Free

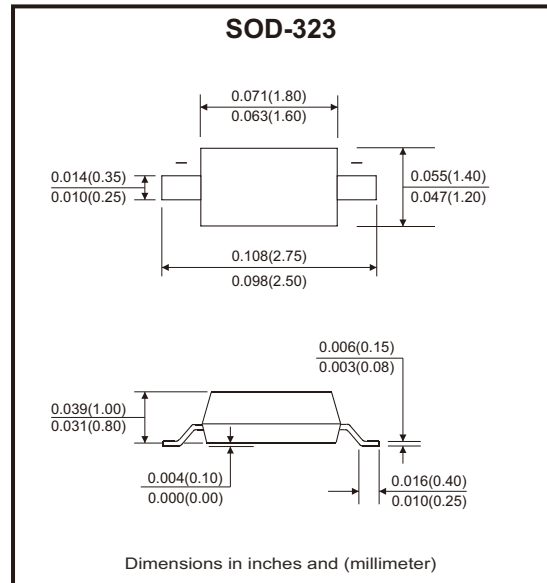


Features

- Bi-directional ESD protection of one line.
- Reverse stand-off voltage: 4.5V.
- Low reverse clamping voltage.
- Low leakage current.
- Excellent package: 1.70mm x 1.30mm x 1.00mm.
- Fast response time.
- JESD22-A114-B ESD rating of class 3B per human body model.

Mechanical data

- Case: SOD-323 package, molded plastic.
- Mounting position: Any



Circuit Diagram



Maximum Rating (at TA=25°C unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|--|-----------------------------------|-------------|------|
| IEC 61000-4-2 ESD voltage air model | ESD (Note 1) | ±30 | kV |
| IEC 61000-4-2 ESD voltage contact model | | | |
| JESD22-A114-B ESD voltage per human body model | | | |
| ESD voltage machine model | | ±0.4 | |
| Peak pulse power (Note 2) | P _{PP} | 2750 | W |
| Peak pulse current (Note 2) | I _{PP} | 100 | A |
| Lead solder temperature - maximum (10 second duration) | T _L | 260 | °C |
| Operation junction and storage temperature range | T _J , T _{STG} | -55 to +150 | °C |

Notes: 1. Device stressed with ten non-repetitive ESD pulses.
 2. Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC 61000-4-5.

Electrical Characteristics (at $T_A=25^\circ\text{C}$ unless otherwise noted)

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|------------------------------------|------------------------------------|------------|-----|-----|------|---------------|
| Reverse stand off voltage (Note 1) | | V_{RWM} | | | 4.5 | V |
| Reverse leakage current | $V_{RWM} = 4.5\text{V}$ | I_R | | | 1 | μA |
| Reverse trigger voltage | $I_T = 1\text{mA}$ | V_{TRIG} | 5.0 | | | V |
| Reverse holding voltage | $I_T = 100\text{mA}$ | V_{HOLD} | 4.6 | | | V |
| Clamping voltage (Note 2) | $I_{PP} = 100\text{A}$ | V_C | | | 27.5 | V |
| Junction capacitance | $V_R = 0\text{V}, f = 1\text{MHz}$ | C_J | | 360 | 450 | pF |

Notes: 1. Other voltages available upon request.

2. Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC 61000-4-5.

Typical Rating and Characteristic Curves (CPDV4V5-HF)

Fig.1 - 8/20 μs Peak Pulse Current Waveform Acc. IEC 61000-4-5

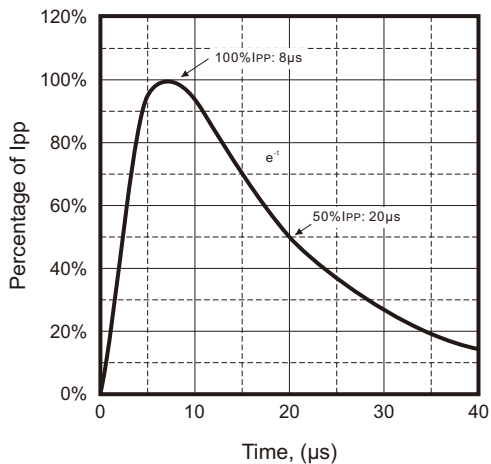


Fig.2 - Reverse Characteristics

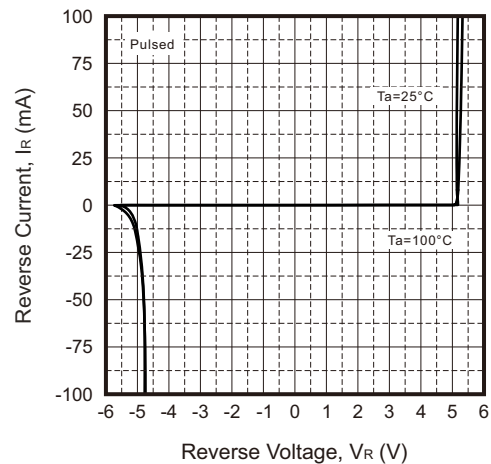


Fig.3 - Capacitance Characteristics

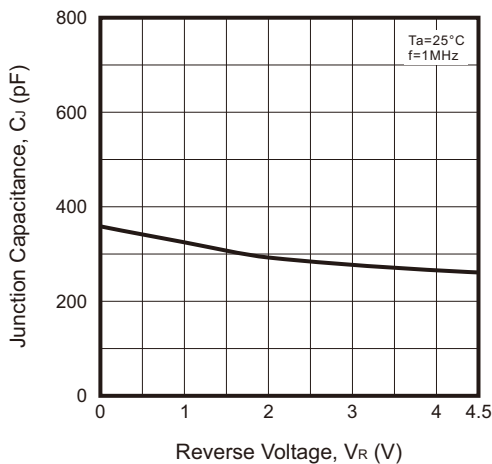
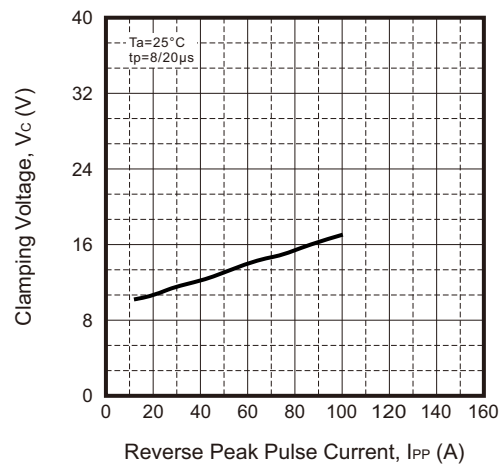
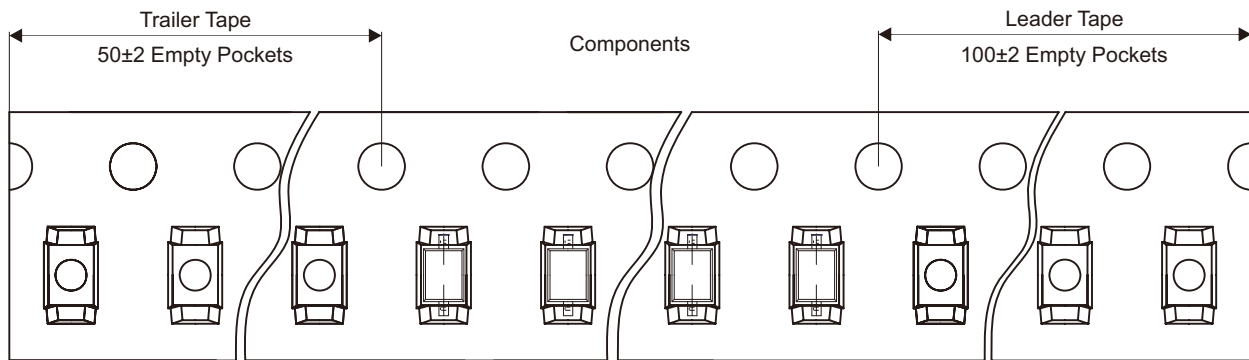
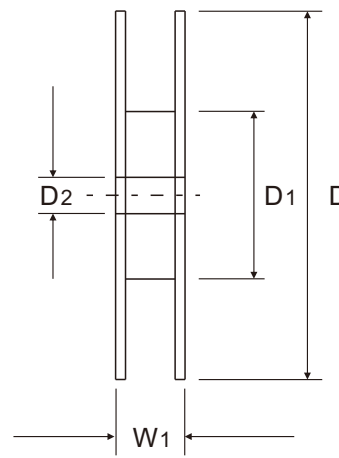
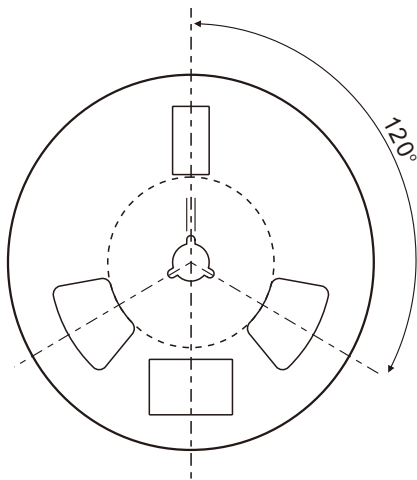
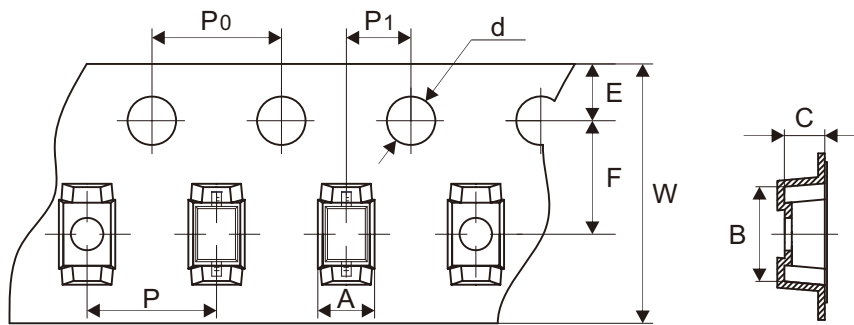


Fig.4 - V_C — I_{PP}



Reel Taping Specification



| SOD-323 | SYMBOL | A | B | C | d | D | D1 | D2 |
|---------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | (mm) | 1.46 ± 0.05 | 2.90 ± 0.05 | 1.25 ± 0.05 | 1.50 ± 0.10 | 178.00 ± 2.00 | 54.40 ± 1.00 | 13.00 ± 1.00 |
| | (inch) | 0.057 ± 0.002 | 0.114 ± 0.002 | 0.049 ± 0.002 | 0.059 ± 0.004 | 7.008 ± 0.079 | 2.142 ± 0.039 | 0.512 ± 0.039 |

| SOD-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 |

Marking Code

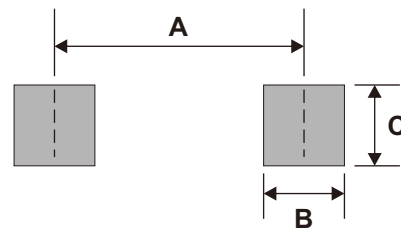
| Part Number | Marking Code |
|-------------|--------------|
| CPDV4V5-HF | D4 |



Solid dot = Halogen free

Suggested P.C.B. PAD Layout

| SIZE | SOD-323 | |
|------|---------|--------|
| | (mm) | (inch) |
| A | 2.15 | 0.085 |
| B | 0.70 | 0.028 |
| C | 0.70 | 0.028 |



Standard Packaging

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