

CPDVR083V3U-HF RoHS Device



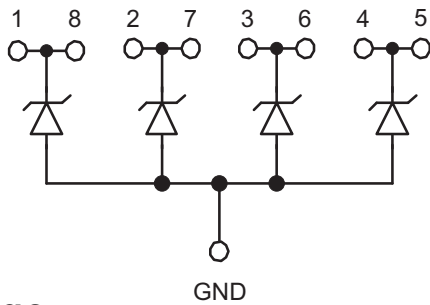
Features

- Halogen free.
- IEC61000-4-2 (ESD)±15kV(Contact),±20kV(Air).
- Working voltage: 3.3V
- Low leakage current.
- Low operating and clamping voltages.

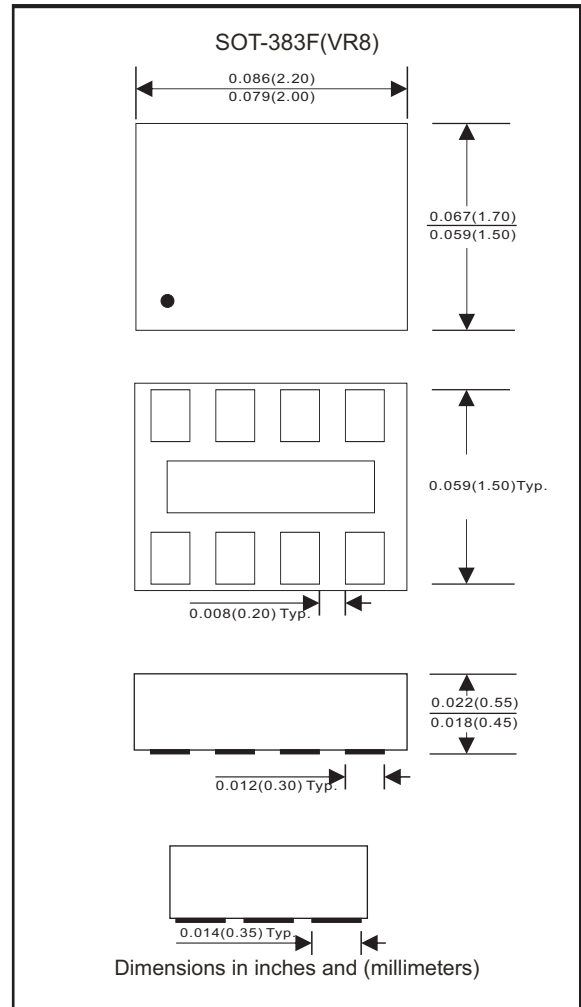
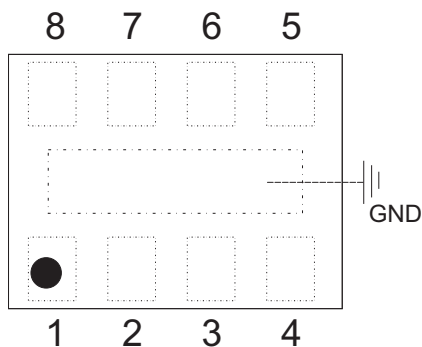
Mechanical data

- Case: SOT-383F standard package, molded plastic.
- Terminals: Gold plated/Nipd, solderable per MIL-STD-750, method 2026.
- Mounting position: Any

Circuit Diagram



Package



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

| Parameter | Symbol | Value | Unit |
|--|--------|-------------|------|
| Peak pulse power (tp = 8/20 us) | PPP | 40 | W |
| Peak pulse current (tp = 8/20 us) | IPP | 5 | A |
| ESD per IEC 61000-4-2(Air) ESD per IEC 61000-4-2(Contact) | VESD | ±20 ±15 | kV |
| Operating temperature | Tj | -55 to +125 | °C |
| Storage temperature | TSTG | -55 to +125 | °C |

Electrical Characteristics (at TA=25°C unless otherwise noted)

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|---------------------------|---|--------|-----|------|-----|------|
| Reverse stand-off voltage | | VRWM | | | 3.3 | V |
| Punch-through voltage | IPT = 2uA | VPT | 3.5 | | | V |
| Snap-back voltage | ISB = 50mA | VSB | 2.8 | | | V |
| Reverse leakage current | VRWM = 3.3V | IR | | 0.05 | 0.5 | uA |
| Clamping voltage | IPP = 1 A, tp=8/20us, Any Channel Pin to Ground | Vc | | | 5.5 | V |
| | IPP = 5 A, tp=8/20us, Any Channel Pin to Ground | Vc | | | 8.0 | V |
| Reverse clamping voltage | IPPR = 1 A, tp=8/20us, Ground to Any Channel Pin | VCR | | | 2.4 | V |
| Junction capacitance | VR = 0 V, f = 1MHz Any Channel Pin to Ground | Cj | | 25 | 30 | pF |
| | VR = 3.3 V, f = 1MHz Any Channel Pin to Ground | Cj | | 14 | | pF |

RATING AND CHARACTERISTIC CURVES (CPDVR083V3U-HF)

Fig. 1 - Non-repetitive max. peak pulse power vs. pulse time

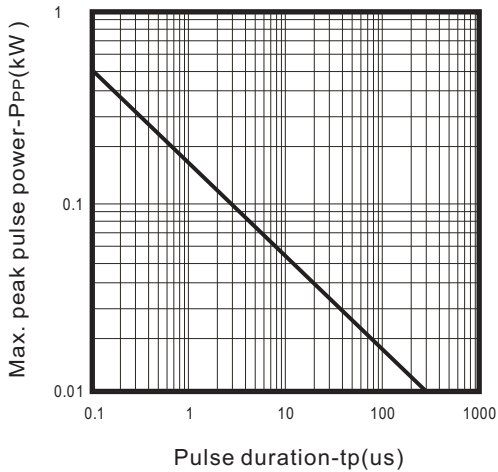


Fig. 2 - Power rating derating curve

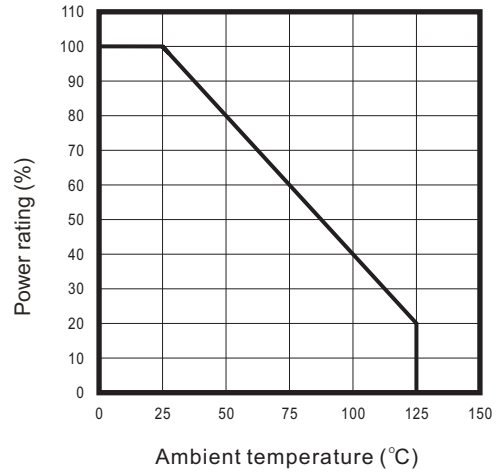


Fig.3 - Clamping voltage vs. peak pulse current

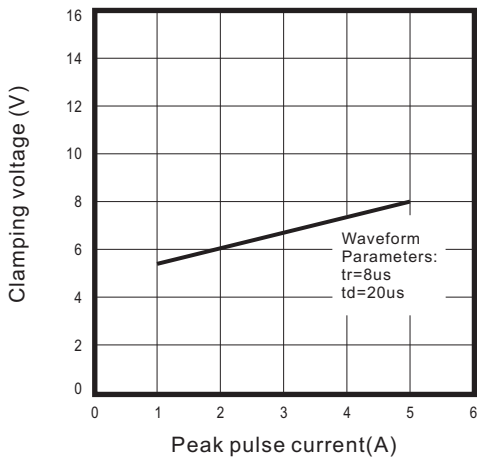


Fig.4 - Forward voltage vs. Forward current

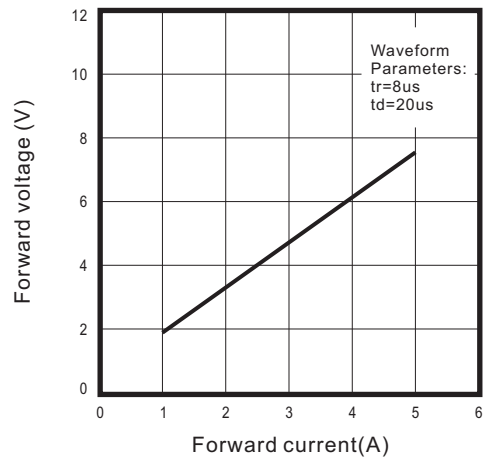
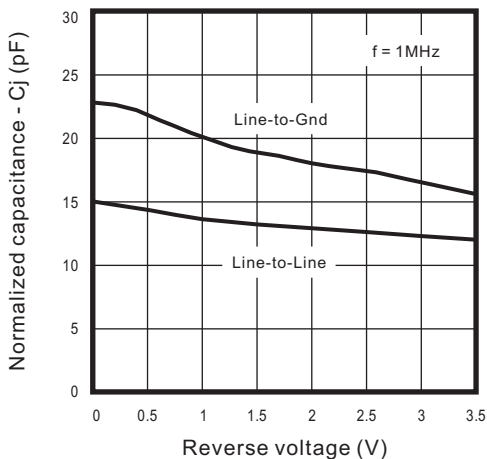
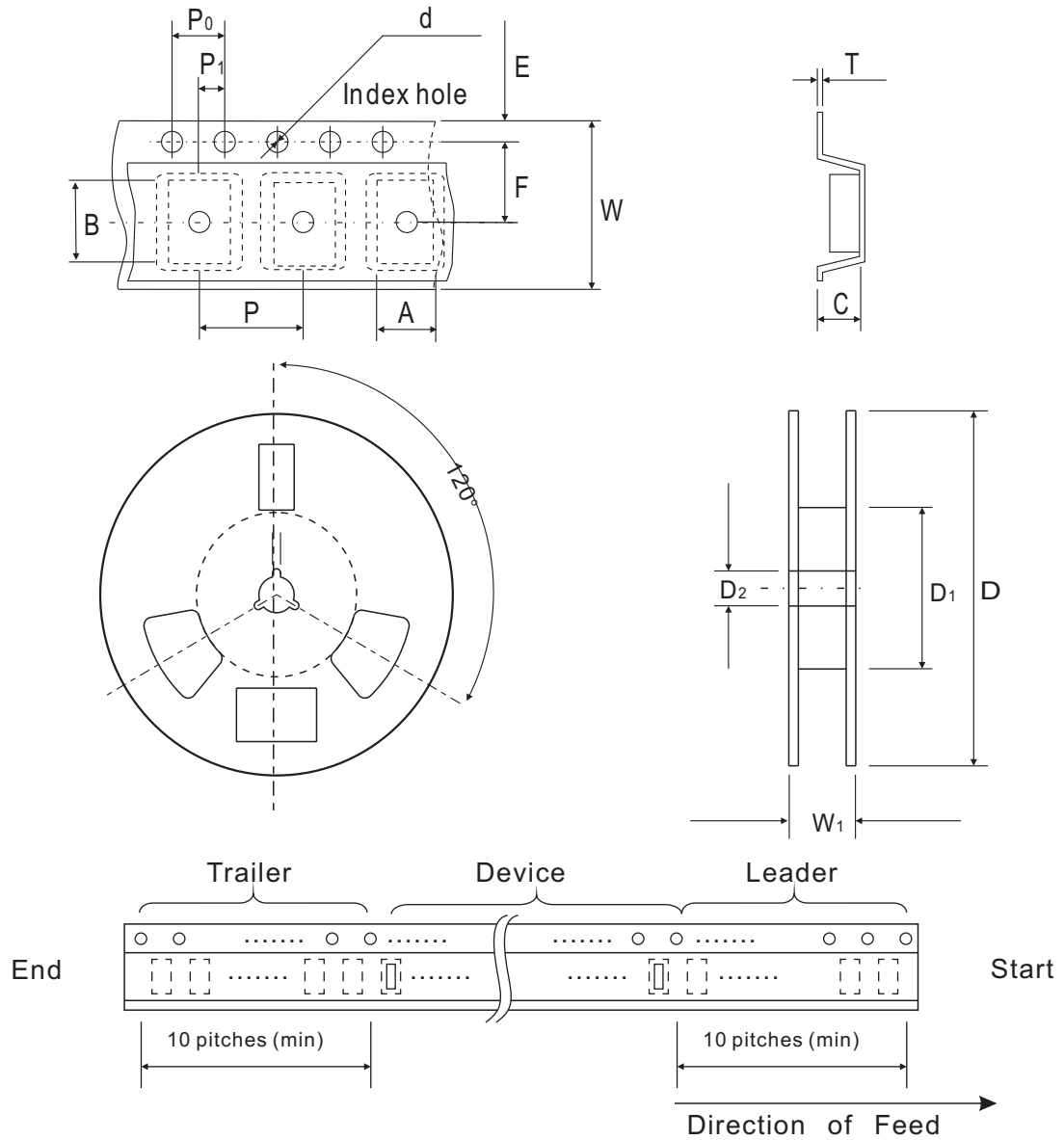


Fig.5 - Junction capacitance vs. reverse voltage



Reel Taping Specification



| SOT-383F | SYMBOL | A | B | C | d | D | D ₁ | D ₂ |
|----------|--------|---------------|---------------|---------------|---------------|--------------|----------------|----------------|
| | (mm) | 1.96 ± 0.10 | 2.31 ± 0.10 | 0.74 ± 0.10 | 1.55 ± 0.10 | 178 ± 1 | 60.0 MIN. | 13.0 ± 0.20 |
| | (inch) | 0.077 ± 0.004 | 0.091 ± 0.004 | 0.029 ± 0.004 | 0.061 ± 0.004 | 7.008 ± 0.04 | 2.362 MIN. | 0.512 ± 0.008 |

| SOT-383F | SYMBOL | E | F | P | P ₀ | P ₁ | T | W | W ₁ |
|----------|--------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
| | (mm) | 1.75 ± 0.10 | 3.50 ± 0.05 | 4.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.10 | 0.22 ± 0.05 | 8.00 ± 0.20 | 13.5 MAX. |
| | (inch) | 0.069 ± 0.004 | 0.138 ± 0.002 | 0.157 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.004 | 0.009 ± 0.002 | 0.315 ± 0.008 | 0.531 MAX. |

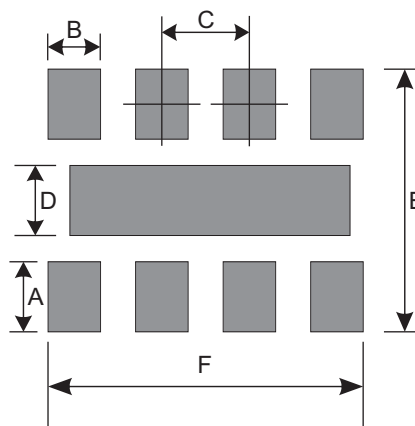
Marking Code

| Part Number | Marking Code |
|----------------|--------------|
| CPDVR083V3U-HF | E3V3 |



Suggested PAD Layout

| SIZE | SOT-383F(VR8) | |
|------|---------------|--------|
| | (mm) | (inch) |
| A | 0.630 | 0.025 |
| B | 0.300 | 0.012 |
| C | 0.500 | 0.020 |
| D | 0.450 | 0.018 |
| E | 2.150 | 0.085 |
| F | 1.800 | 0.071 |



Standard Package

| Case Type | Qty per Reel | Reel Size |
|---------------|--------------|-----------|
| | (Pcs) | (inch) |
| SOT-383F(VR8) | 3000 | 7 |