

CPDV5-3V3UP RoHS Device



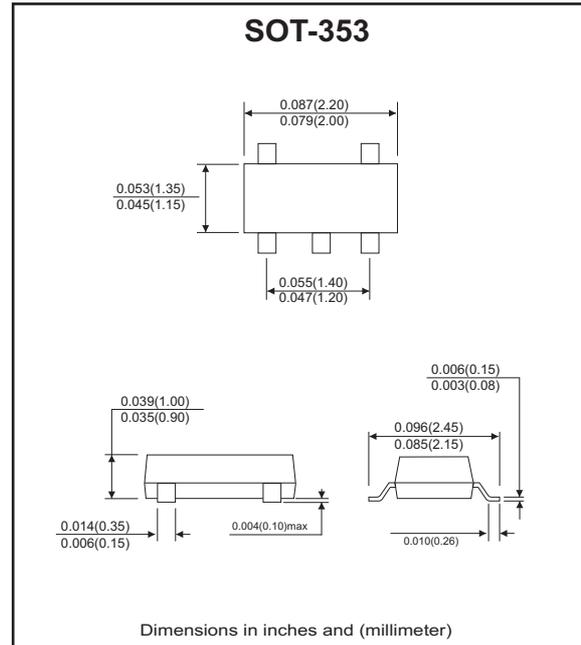
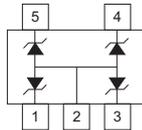
Features

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

Mechanical data

- Case: SOT-353 standard package ,molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750,method 2026.
- Mounting position: Any
- Weight: 0.0070 gram (approx.).

Circuit Diagram



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

| Parameter | Symbol | Value | Unit |
|--|-----------|----------------------|------------------|
| Peak pulse power ($t_p = 8/20$ us) | PPP | 40 | W |
| Peak pulse current ($t_p = 8/20$ us) | IPP | 5 | A |
| ESD per IEC 61000-4-2(Air) ESD per IEC 61000-4-2(Contact) | V_{ESD} | ± 20 ± 15 | kV |
| Operating temperature | T_j | -55 to +125 | $^\circ\text{C}$ |
| Storage temperature | T_{STG} | -55 to +125 | $^\circ\text{C}$ |

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

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|---------------------------|--|-----------|-----|------|-----|---------------|
| Reverse stand-off voltage | | V_{RWM} | | | 3.3 | V |
| Punch-through voltage | $I_{PT} = 2\mu\text{A}$ | V_{PT} | 3.5 | | | V |
| Snap-back voltage | $I_{SB} = 50\text{mA}$ | V_{SB} | 2.8 | | | V |
| Reverse leakage current | $V_{RWM} = 3.3\text{V}$ | I_R | | 0.05 | 0.5 | μA |
| Clamping voltage | $I_{PP} = 1\text{A}, t_p=8/20\text{us}$ | V_C | | | 5.5 | V |
| | $I_{PP} = 5\text{A}, t_p=8/20\text{us}$ | V_C | | | 8.0 | V |
| Reverse clamping voltage | $I_{PPR} = 1\text{A}, t_p=8/20\text{us}$ | V_{CR} | | | 2.4 | V |
| Junction capacitance | $V_R = 0\text{V}, f = 1\text{MHz}$ | C_j | | 12 | 16 | pF |

RATING AND CHARACTERISTIC CURVES (CPDV5-3V3UP)

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

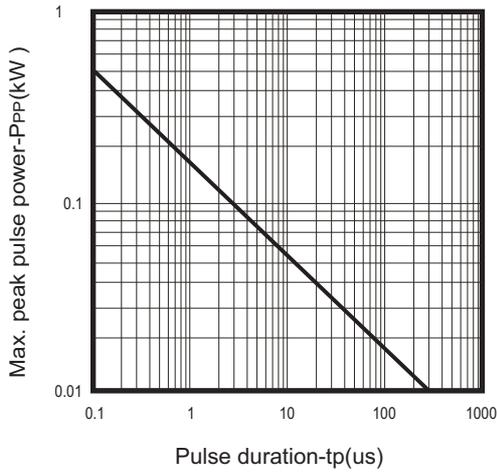


Fig. 2 - Power rating derating curve

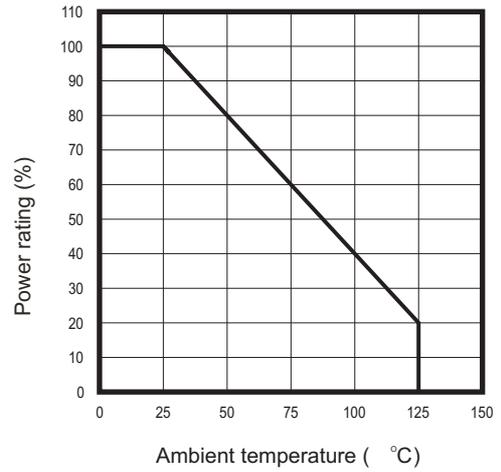


Fig.3 - Clamping voltage vs. peak pulse current

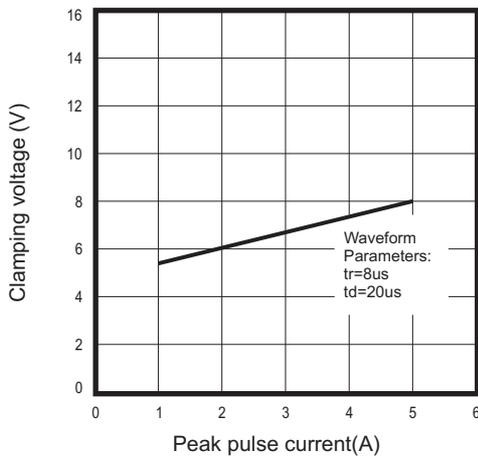


Fig.4 - Forward voltage vs. Forward current

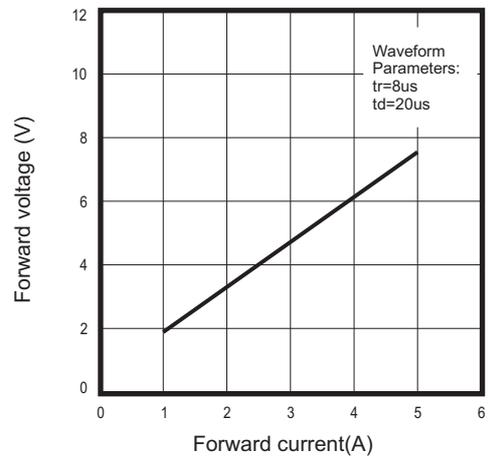
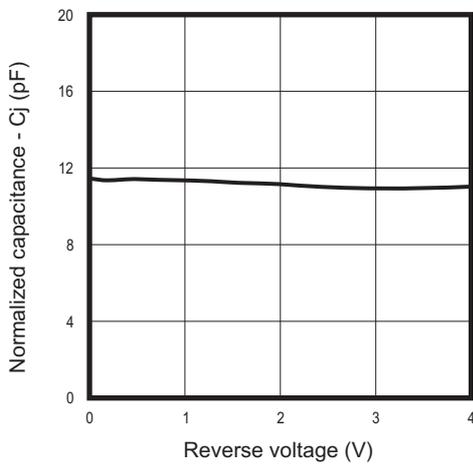
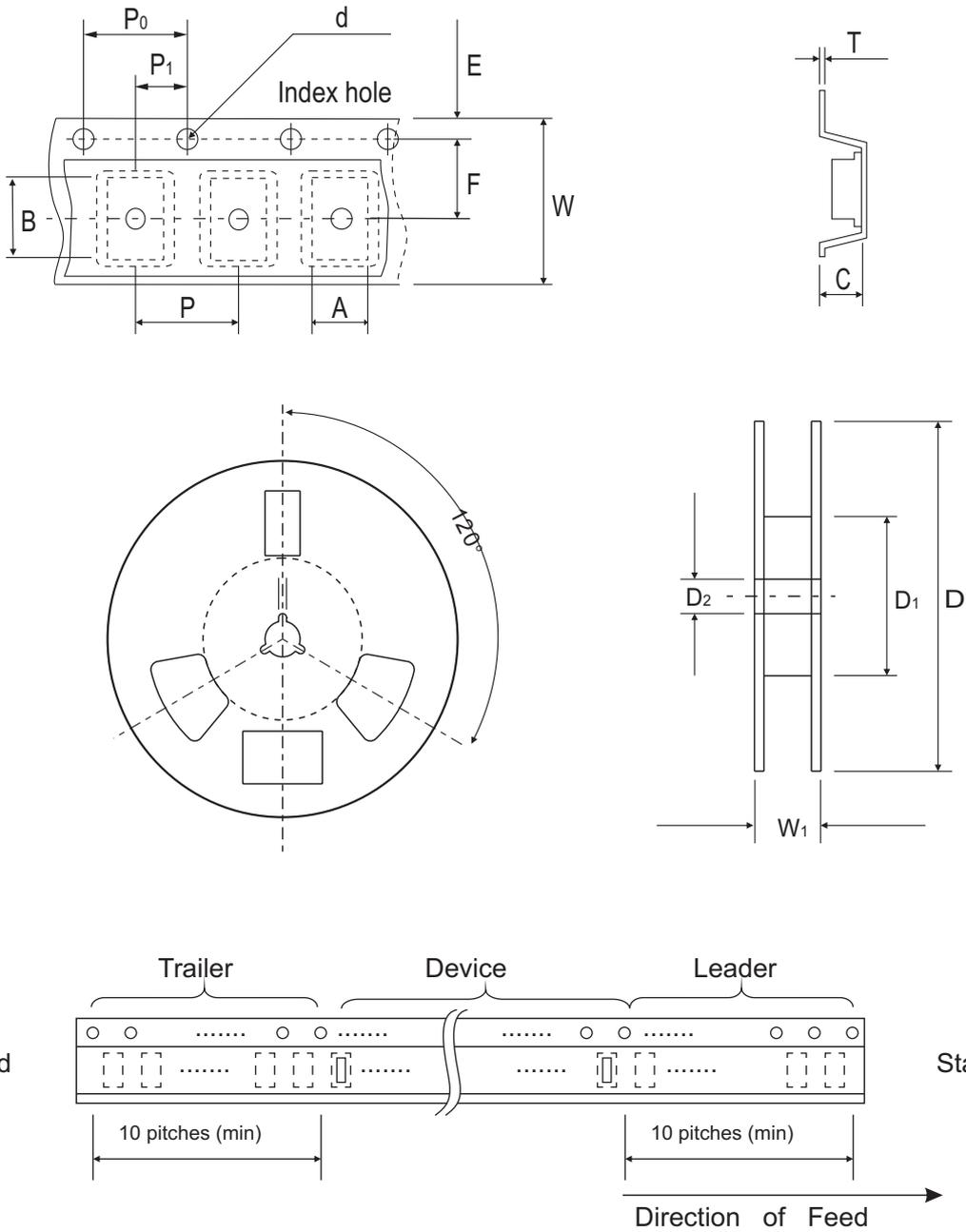


Fig.5 - Junction capacitance vs. reverse voltage



Reel Taping Specification

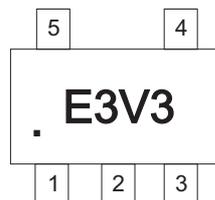


| SOT-353 | SYMBOL | A | B | C | d | D | D1 | D2 |
|---------|--------|---------------|---------------|---------------|---------------|---------------|------------|---------------|
| | (mm) | 2.20 ± 0.10 | 2.40 ± 0.10 | 1.35 ± 0.10 | 1.55 ± 0.10 | 178 ± 1 | 50.0 MIN. | 13.0 ± 0.20 |
| | (inch) | 0.087 ± 0.004 | 0.094 ± 0.004 | 0.053 ± 0.004 | 0.061 ± 0.004 | 7.008 ± 0.040 | 1.969 MIN. | 0.512 ± 0.008 |

| SOT-353 | SYMBOL | E | F | P | P0 | P1 | W | W1 |
|---------|--------|---------------|---------------|---------------|---------------|---------------|---------------|------------|
| | (mm) | 1.75 ± 0.10 | 3.50 ± 0.05 | 4.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.05 | 8.00 ± 0.30 | 14.4 MAX. |
| | (inch) | 0.069 ± 0.004 | 0.138 ± 0.002 | 0.157 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.002 | 0.315 ± 0.012 | 0.567 MAX. |

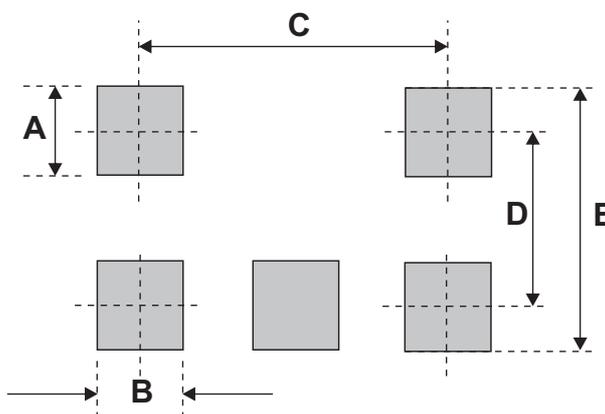
Marking Code

| Part Number | Marking Code |
|-------------|--------------|
| CPDV5-3V3UP | E3V3 |



Suggested PAD Layout

| SIZE | SOT-353 | |
|------|---------|--------|
| | (mm) | (inch) |
| A | 0.80 | 0.031 |
| B | 0.35 | 0.014 |
| C | 1.30 | 0.051 |
| D | 1.94 | 0.076 |
| E | 2.74 | 0.108 |



Standard Packaging

| Case Type | REEL PACK | |
|-----------|--------------|------------------|
| | REEL (pcs) | Reel Size (inch) |
| SOT-353 | 3,000 | 7 |