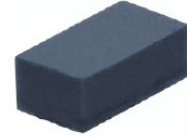


CPDUR5V0HE-HF

RoHS Device
Halogen Free

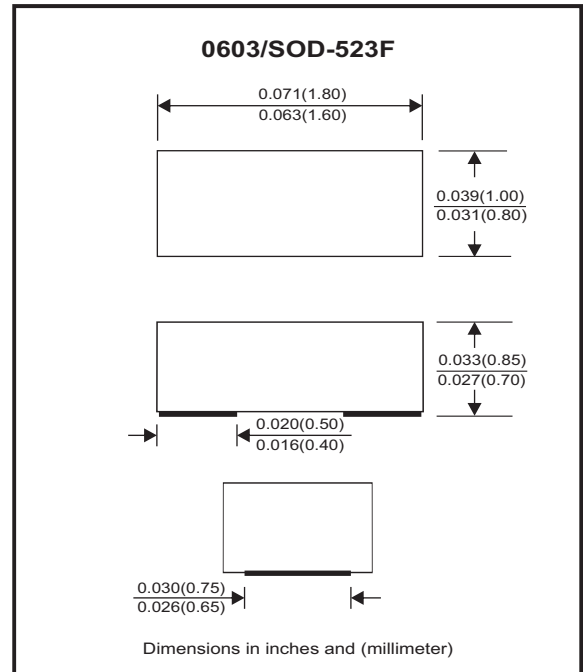


Features

- Bi-directional ESD protection
- IEC 61000-4-5 (surge) ; $I_{PP}=8A$
- IEC 61000-4-2 (ESD) ; $\pm 30KV(\text{contact})$
- Low clamping voltage
- Low leakage current
- High surge current

Mechanical data

- Case: 0603/SOD-523F Standard package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Mounting position: Any.
- Weight: 0.003 grams(approx.).



Circuit Diagram



Maximum Rating (at $T_A=25^\circ C$ unless otherwise noted)

| Parameter | Conditions | Symbol | Value | Unit |
|-----------------------------|--|-----------|----------|------------|
| Peak pulse power | $T_P = 8/20\mu s$ | P_{PP} | 128 | W |
| Peak pulse current | $T_P = 8/20\mu s$ | I_{PP} | 8 | A |
| ESD capability | IEC 61000-4-2(air) IEC 61000-4-2(contact) | ESD | ± 30 | kV |
| Operation temperature range | | T_j | -40~+125 | $^\circ C$ |
| Storage temperature range | | T_{STG} | -55~+150 | $^\circ C$ |

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

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|------------------------------|--|-----------|-----|-----|----------|---------|
| Working peak reverse voltage | | V_{RWM} | | | 5 | V |
| Breakdown voltage | $I_T = 1mA$ | V_{BR} | 5.5 | 7.0 | | V |
| Reverse leakage current | $V_{RWM} = 5V$ | I_R | | 0.1 | 1.0 | μA |
| Clamping voltage | $I_{PP} = 1A, T_P = 8/20\mu s$ $I_{PP} = 8A, T_P = 8/20\mu s$ | V_C | | | 11 16 | V |
| Junction capacitance | $V_R = 0V, f = 1MHz$ | C_J | | 15 | 20 | pF |

RATING AND CHARACTERISTIC CURVES (CPDUR5V0HE-HF)

Fig.1- 8/20us Peak Pulse Current Wave Form Acc. IEC61000-4-5

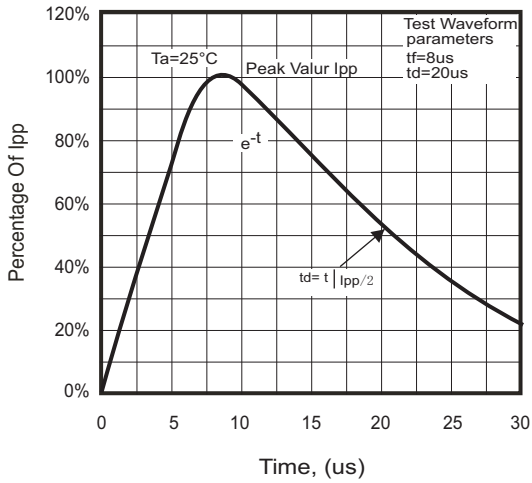


Fig.2 - Typical Capacitance Between Terminals Characteristics

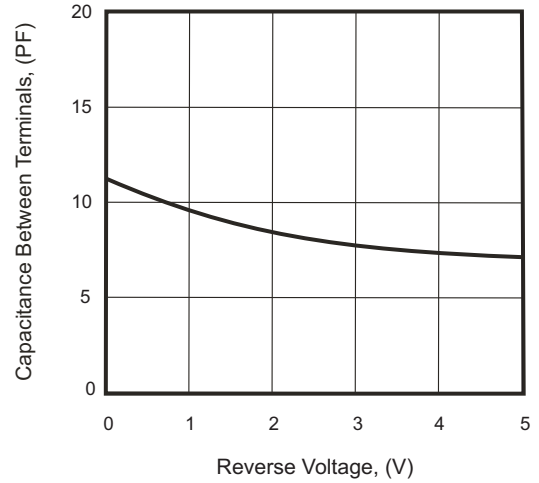


Fig.3 - Clamping Voltage Vs. Peak Pulse Current

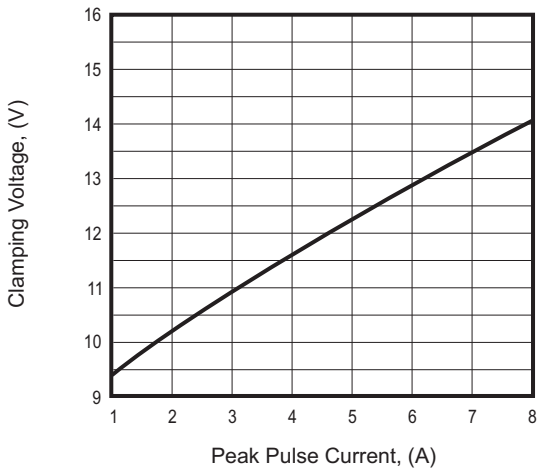
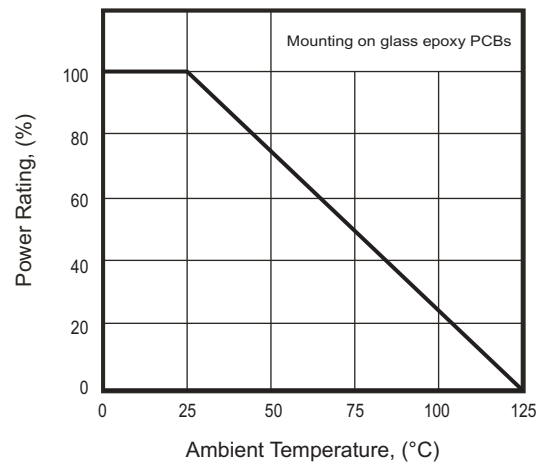
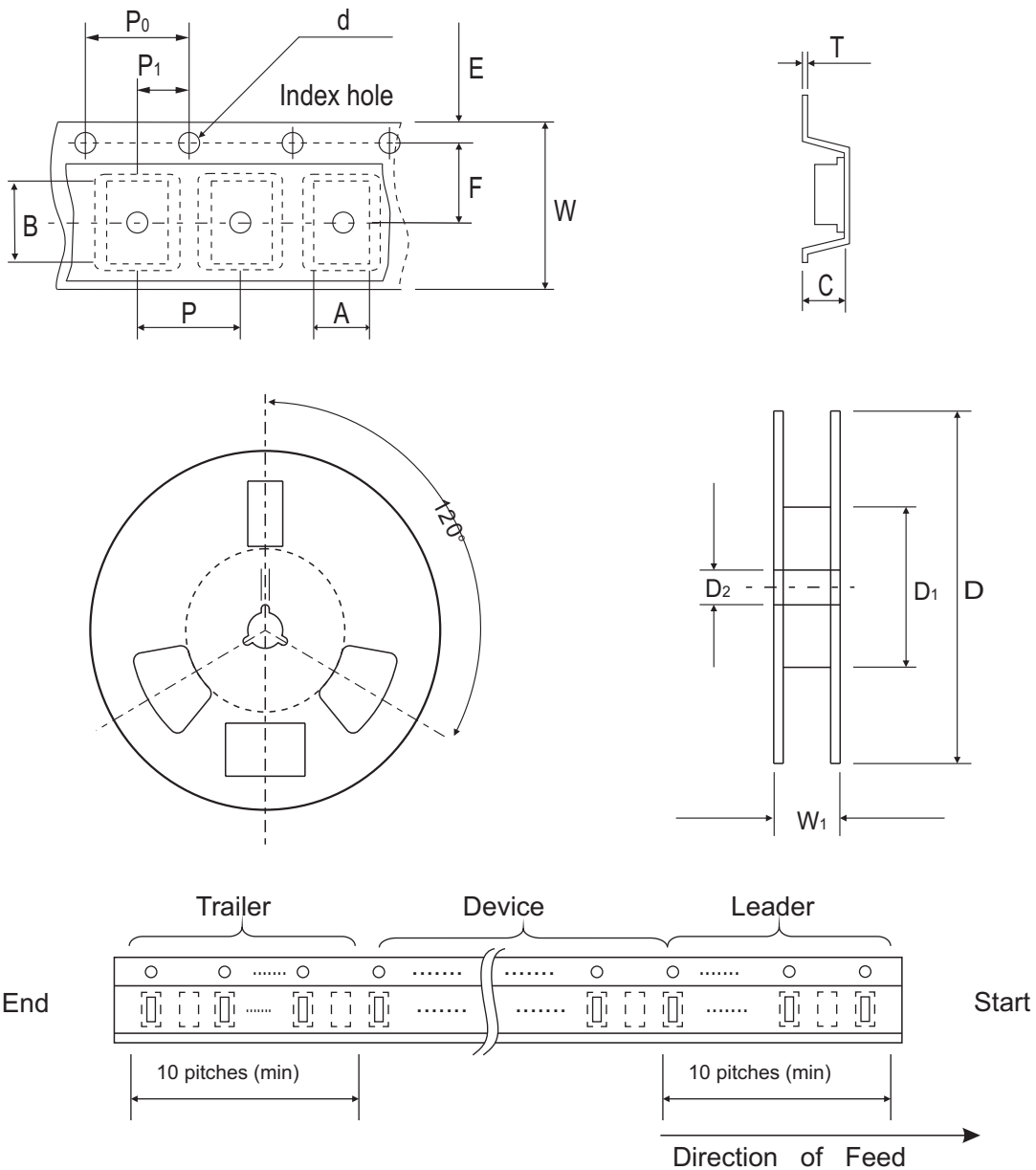


Fig. 4 - Power Rating Derating Curve



Reel Taping Specification



| 0603 (SOD-523) | SYMBOL | A | B | C | d | D | D ₁ | D ₂ |
|-------------------|--------|---------------|---------------|---------------|---------------|--------------|----------------|----------------|
| | (mm) | 1.00 ± 0.10 | 1.85 ± 0.10 | 1.00 ± 0.10 | 1.55 ± 0.05 | 178 ± 1 | 60.0 MIN. | 13.0 ± 0.20 |
| | (inch) | 0.039 ± 0.004 | 0.073 ± 0.004 | 0.039 ± 0.004 | 0.061 ± 0.002 | 7.008 ± 0.04 | 2.362 MIN. | 0.512 ± 0.008 |

| 0603 (SOD-523) | 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 ± 0.05 | 0.23 ± 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. |

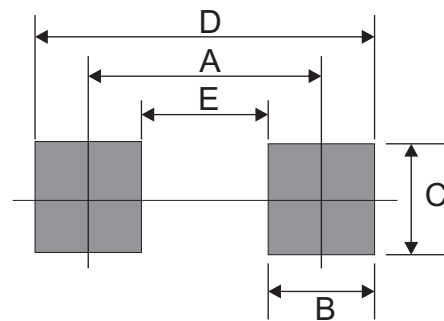
Marking Code

| Part Number | Marking Code |
|---------------|--------------|
| CPDUR5V0HE-HF | E05 |



Suggested PAD Layout

| SIZE | 0603/SOD-523F | |
|------|---------------|--------|
| | (mm) | (inch) |
| A | 1.25 | 0.049 |
| B | 0.60 | 0.024 |
| C | 1.00 | 0.039 |
| D | 1.85 | 0.073 |
| E | 0.65 | 0.026 |



Standard Packaging

| Case Type | REEL PACK | |
|---------------|--------------|------------------|
| | REEL (pcs) | Reel Size (inch) |
| 0603/SOD-523F | 4,000 | 7 |