

CPDH5V0U-HF

RoHS Device

Halogen Free

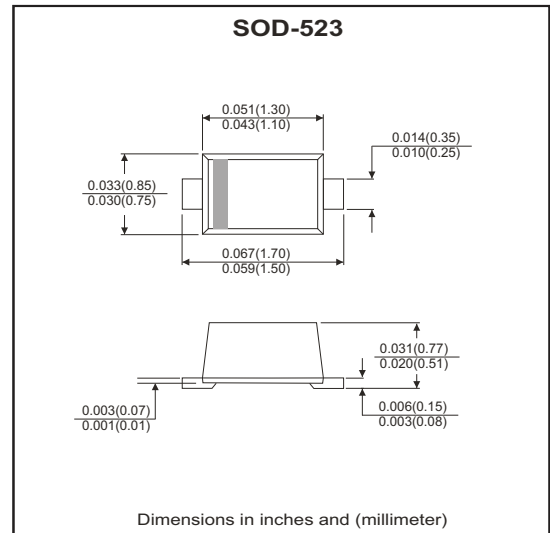


Features

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

Mechanical data

- Case: SOD-523 standard package , molded plastic.
- Terminals: Tin plated, solderable per MIL-STD-750,method 2026.
- Marking code: E5
- Mounting position: Any
- Weight: 0.0012 grams(approx.).



Circuit Diagram



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

| Parameter | Conditions | Symbol | Value | Unit |
|-----------------------------|--|------------------|------------|------|
| Peak pulse power | T _P = 8/20us | P _{PP} | 200 | W |
| Peak pulse current | T _P = 8/20us | I _{PP} | 16 | A |
| ESD capability | IEC 61000-4-2(air) IEC 61000-4-2(contact) | ESD | ±20 ±15 | kV |
| Operation temperature range | | T _J | -55~+125 | °C |
| Storage temperature range | | T _{STG} | -55~+150 | °C |

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

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|------------------------------|--|------------------|-----|-----|--------------------|------|
| Working peak reverse voltage | | V _{RWM} | | | 5.0 | V |
| Forward voltage | I _F = 10mA | V _F | | 0.8 | | V |
| Breakdown voltage | I _T = 1mA | V _{BR} | 6.0 | | | V |
| Reverse leakage current | V _{RWM} = 5V | I _R | | 0.3 | 2.0 | uA |
| Clamping voltage | I _{PP} = 1A, T _P = 8/20us I _{PP} = 5A, T _P = 8/20us I _{PP} = 16A, T _P = 8/20us | V _C | | | 9.0 9.8 12.5 | V |
| Junction capacitance | V _R = 0V, f = 1MHz | C _J | | 90 | 120 | pF |

RATING AND CHARACTERISTIC CURVES (CPDH5V0U-HF)

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

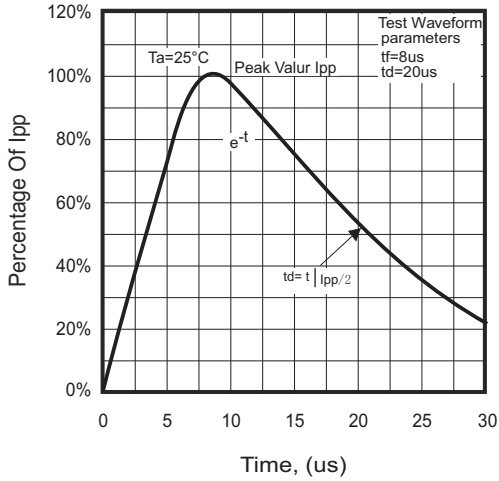


Fig. 2 - Power Rating Derating Curve

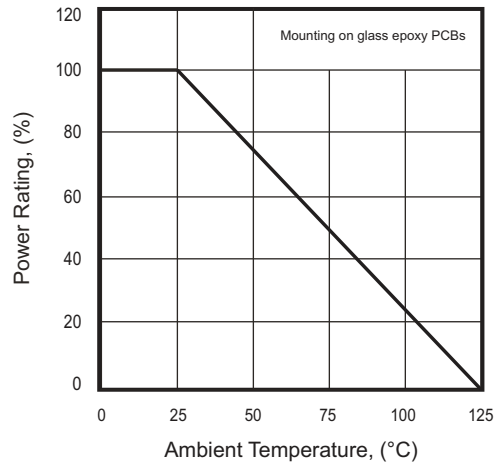


Fig.3 - Clamping Voltage Vs. Peak Pulse Current

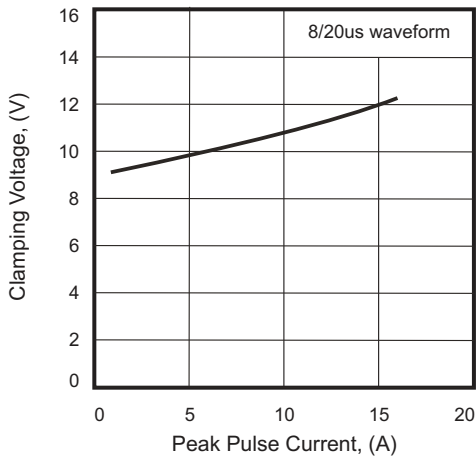
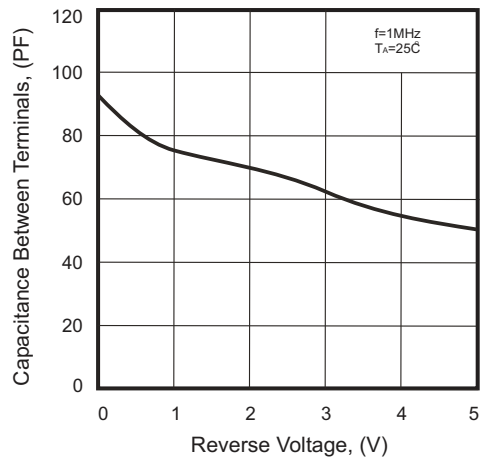
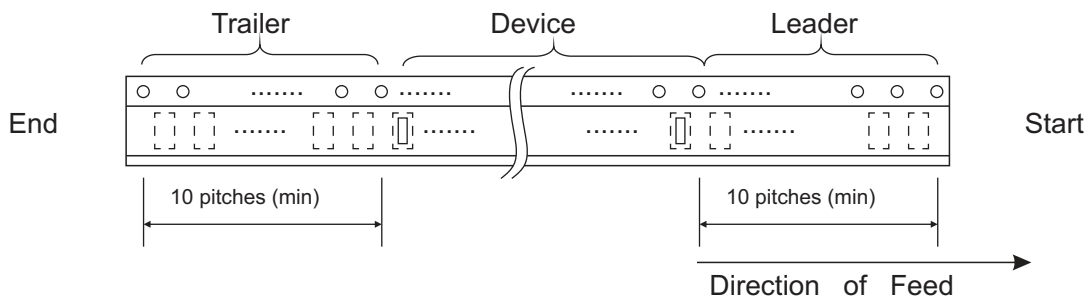
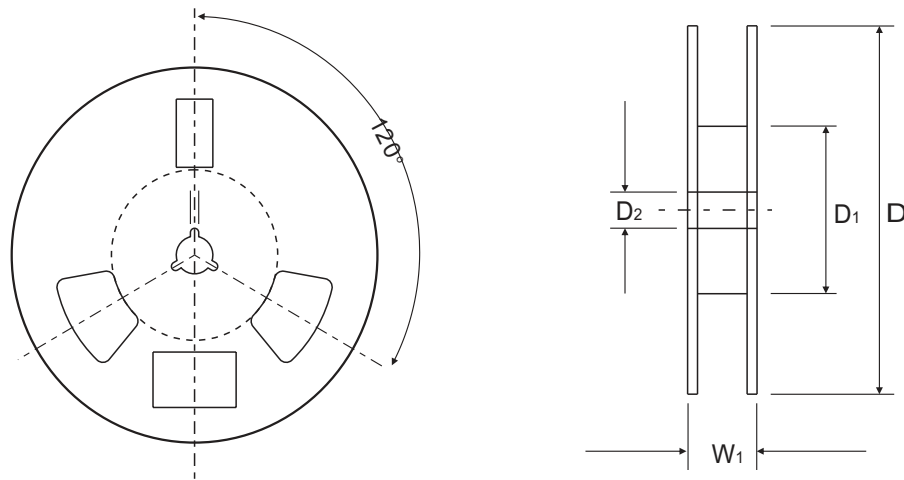
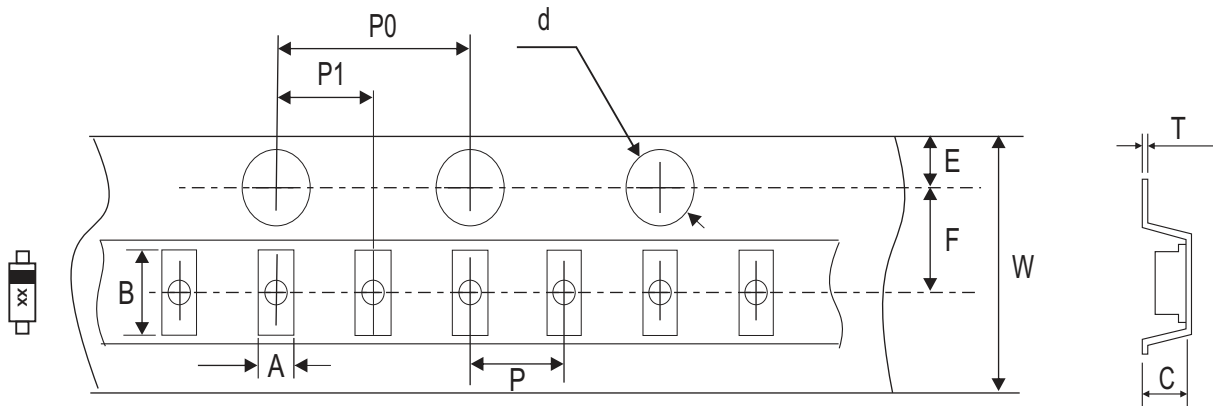


Fig.4 - Capacitance Between Terminals Characteristics



Reel Taping Specification



| SOD-523 | SYMBOL | A | B | C | d | D | D ₁ | D ₂ |
|---------|--------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|
| | (mm) | 0.90 ± 0.05 | 1.94 ± 0.05 | 0.73 ± 0.05 | 1.50 ± 0.10 | 178 ± 2.00 | 54.40 ± 1.00 | 13.00 ± 1.00 |
| | (inch) | 0.035 ± 0.002 | 0.076 ± 0.002 | 0.029 ± 0.002 | 0.059 ± 0.004 | 7.008 ± 0.079 | 2.142 ± 0.039 | 0.511 ± 0.039 |

| SOD-523 | SYMBOL | E | F | P | P ₀ | P ₁ | W | W ₁ |
|---------|--------|---------------|---------------|---------------|----------------|----------------|-------------------------|----------------|
| | (mm) | 1.75 ± 0.10 | 3.50 ± 0.10 | 2.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.10 | 8.00 + 0.30 / - 0.10 | 12.30 ± 1.0 |
| | (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 |

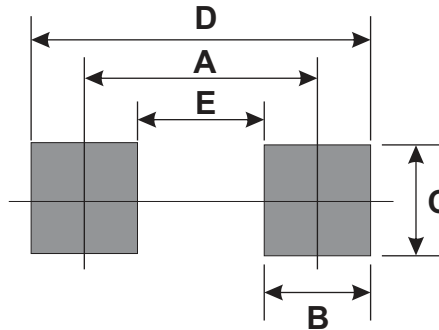
Marking Code

| Part Number | Marking Code |
|-------------|--------------|
| CPDH5V0U-HF | E5 |



Suggested PAD Layout

| SIZE | SOD-523 | |
|------|---------|--------|
| | (mm) | (inch) |
| A | 1.42 | 0.055 |
| B | 0.60 | 0.024 |
| C | 0.70 | 0.028 |
| D | 2.02 | 0.079 |
| E | 0.82 | 0.031 |



Standard Packaging

| Case Type | REEL PACK | |
|-----------|--------------|------------------|
| | REEL (pcs) | Reel Size (inch) |
| SOD-523 | 3,000 | 7 |