

CPDF12V0U-HF

RoHS Device
Halogen Free

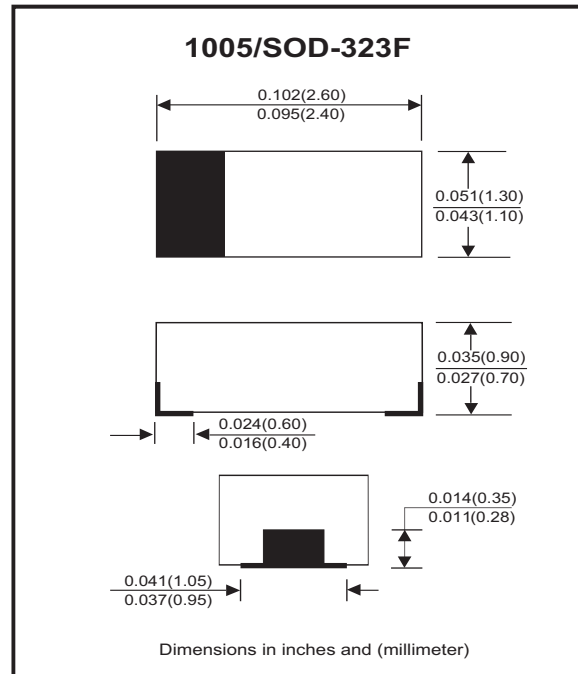


Features

- Uni-directional ESD protection.
- Surface mount package.
- High component density.

Mechanical data

- Case: 1005/SOD-323F standard package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Marking Code: Cathode band & E12
- Mounting position: Any.
- Weight: 0.006 grams (approx.).



Circuit Diagram



Maximum Rating And Electrical Characteristics

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

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|-----------------------------|--|-----------|------|------|----------|------------------|
| Forward voltage | $I_F = 10\text{mA}$ | V_F | | 0.8 | | V |
| Diode breakdown voltage | $I_R = 1\text{mA}$ | V_{BD} | 13.3 | 15.5 | 17.5 | V |
| Leakage current | $V_R = 12\text{V}$ | I_L | | 0.1 | 1.0 | μA |
| Junction capacitance | $V_R = 0\text{V}, f = 1\text{MHz}$ | C_T | | | 60 | pF |
| ESD capability | IEC 61000-4-2(air) IEC 61000-4-2(contact) | ESD | | | 30 | kV |
| Clamping voltage | $I_{PP} = 1\text{A}, T_P=8/20\mu\text{s}$ $I_{PP} = 5\text{A}, T_P=8/20\mu\text{s}$ | V_C | | | 19 24 | V |
| Peak pulse power | | P_{PP} | | | 120 | W |
| Operation temperature range | | T_J | -55 | | 125 | $^\circ\text{C}$ |
| Storage temperature range | | T_{STG} | -55 | | 150 | $^\circ\text{C}$ |

RATING AND CHARACTERISTIC CURVES (CPDF12V0U-HF)

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

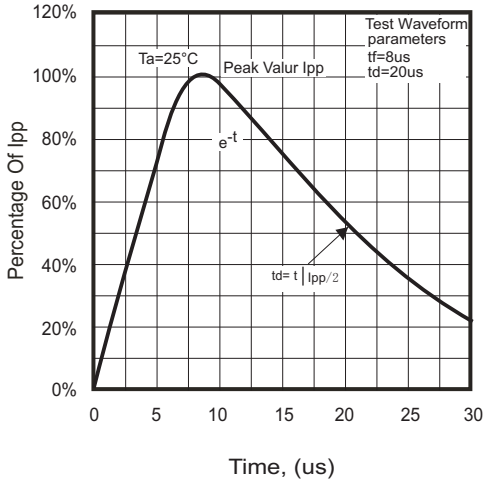


Fig.2 - Power Rating Derating Curve

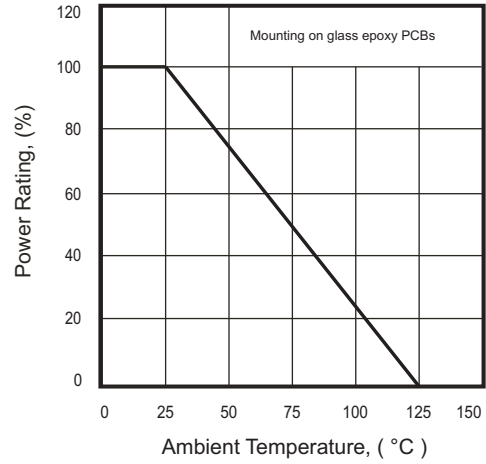


Fig.3 - Clamping Voltage Vs. Peak Pulse Current

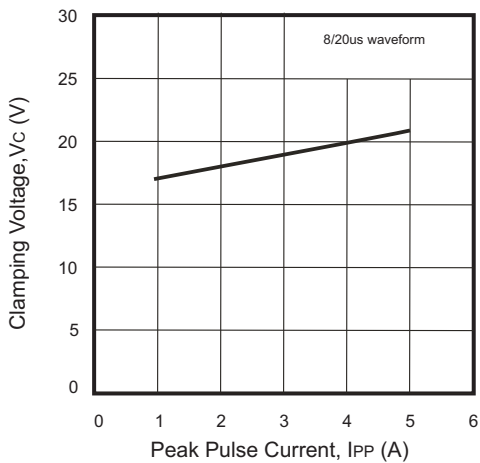


Fig.4 - Clamping Voltage Vs. Forward Peak Pulse Current

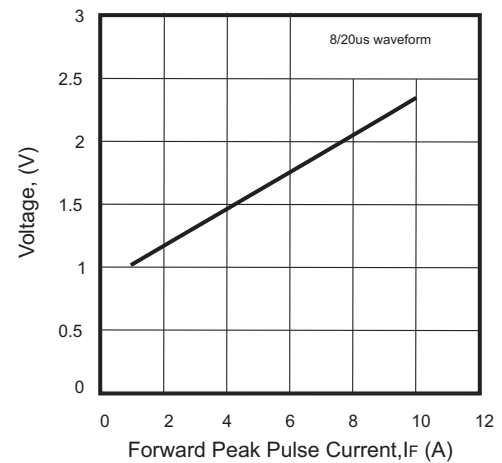
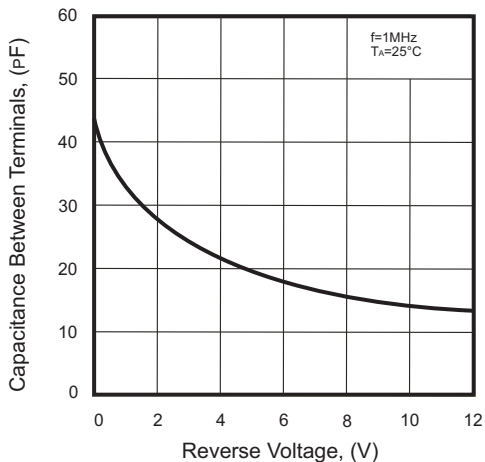
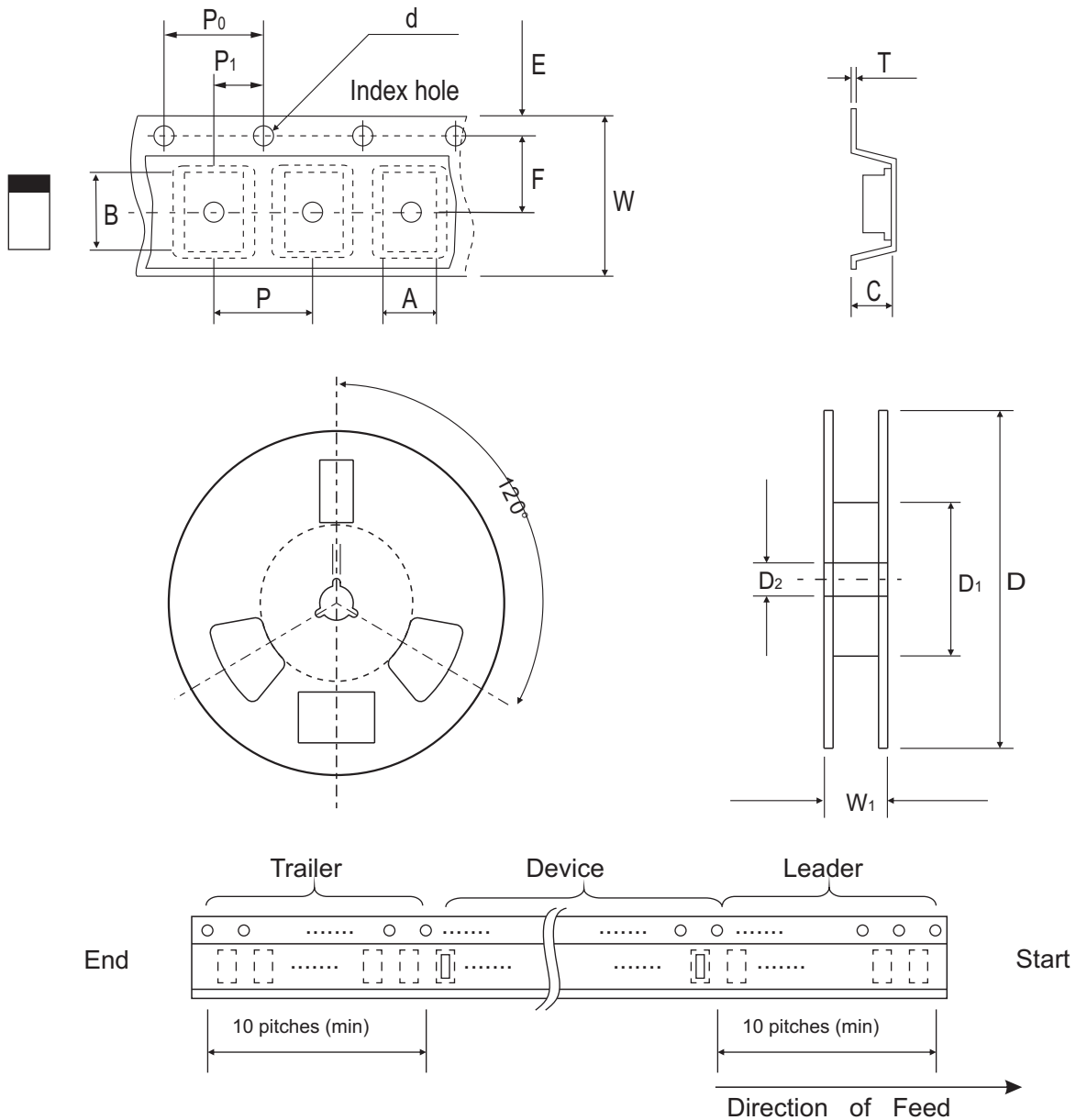


Fig.5 - Capacitance Between Terminals Characteristics



Reel Taping Specification



| 1005 (SOD-323F) | SYMBOL | A | B | C | d | D | D ₁ | D ₂ |
|--------------------|--------|---------------|---------------|---------------|---------------|--------------|----------------|----------------|
| | (mm) | 1.55 ± 0.10 | 2.65 ± 0.10 | 1.05 ± 0.10 | 1.55 ± 0.05 | 178 ± 1.0 | 60.0 MIN. | 13.00 ± 0.20 |
| | (inch) | 0.061 ± 0.004 | 0.104 ± 0.004 | 0.041 ± 0.004 | 0.061 ± 0.002 | 7.008 ± 0.04 | 2.362 MIN. | 0.512 ± 0.008 |

| 1005 (SOD-323F) | 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 ± 0.002 | 0.009 ± 0.002 | 0.315 ± 0.008 | 0.531 MAX. |

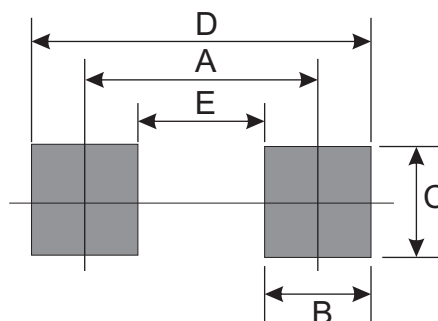
Marking Code

| | |
|--------------|--------------|
| Part Number | Marking Code |
| CPDF12V0U-HF | E12 |



Suggested PAD Layout

| SIZE | 1005/SOD-323F | |
|------|---------------|--------|
| | (mm) | (inch) |
| A | 2.10 | 0.083 |
| B | 1.20 | 0.047 |
| C | 1.20 | 0.047 |
| D | 3.30 | 0.130 |
| E | 0.90 | 0.035 |



Standard Packaging

| Case Type | Qty Per Reel | Reel Size |
|---------------|--------------|-----------|
| | (Pcs) | (inch) |
| 1005/SOD-323F | 4,000 | 7 |