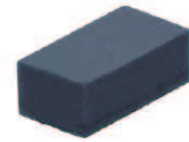


CPDFR Series-HF

RoHS Device
Halogen Free

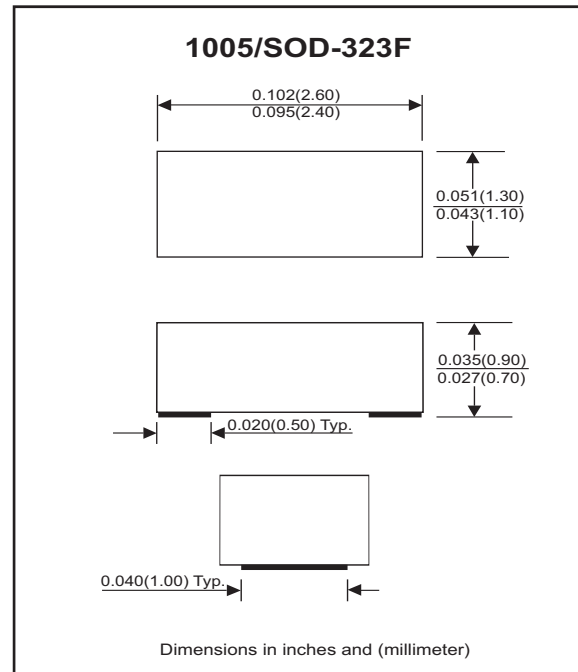


Features

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

Mechanical data

- Case: 1005(2512) standard package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Marking Code:
 CPDFR5V0-HF: E05
 CPDFR12V-HF: E12
 CPDFR24V-HF: E24
- Mounting position: Any.
- Weight: 0.006 gram(approx.).



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

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|-------------------------|---|------------------|-----------------|-----------------|------------------|------|
| Diode breakdown voltage | CPDFR5V0-HF CPDFR12V-HF CPDFR24V-HF I _R = 1mA | V _{BD} | 5.1 13 25 | 7.0 17 28 | | V |
| Leakage current | CPDFR5V0-HF CPDFR12V-HF CPDFR24V-HF V _R = 5V V _R = 12V V _R = 24V | I _L | | 0.1 | 2.0 | uA |
| Junction capacitance | CPDFR5V0-HF CPDFR12V-HF CPDFR24V-HF V _R = 0V, f = 1MHz | C _T | | 15 12 10 | 20 --- --- | pF |
| ESD capability | CPDFR Series-HF IEC 61000-4-2(air) IEC 61000-4-2(contact) | ESD | | | 16 8 | kV |
| Clamping voltage | CPDFR5V0-HF CPDFR12V-HF CPDFR24V-HF I _{PP} = 5A, T _P =8/20us I _{PP} = 1A, T _P =8/20us I _{PP} = 1A, T _P =8/20us | V _C | | | 15 25 47 | V |
| Peak pulse power | CPDFR5V0-HF CPDFR12V-HF CPDFR24V-HF T _P =8/20us | P _{PP} | | | 75 25 47 | W |
| Operation temperature | CPDFR Series-HF | T _j | | | 125 | °C |
| Storage temperature | CPDFR Series-HF | T _{STG} | -55 | | 150 | °C |

RATING AND CHARACTERISTIC CURVES (CPDFR Series-HF)

Fig. 1 - 8/20us Peak pulse current wave form acc. IEC 61000-4-5

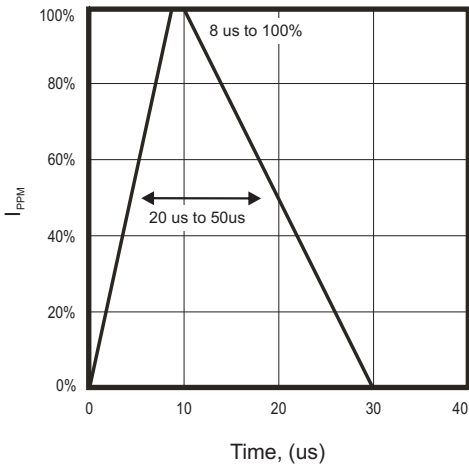


Fig. 2 - Reverse characteristics

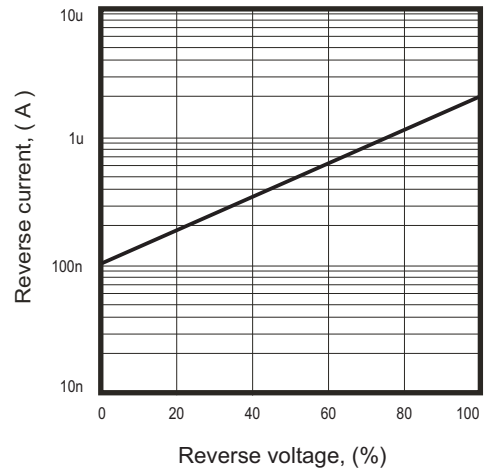


Fig. 3 - Capacitance between terminals characteristics

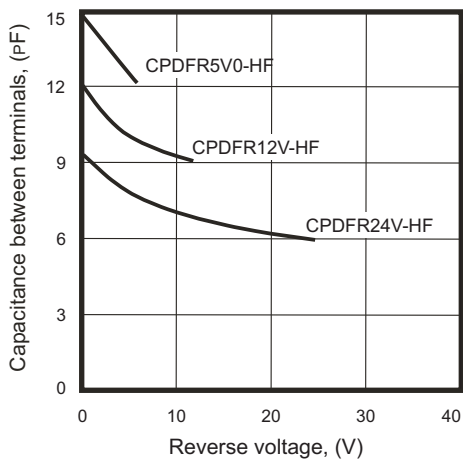
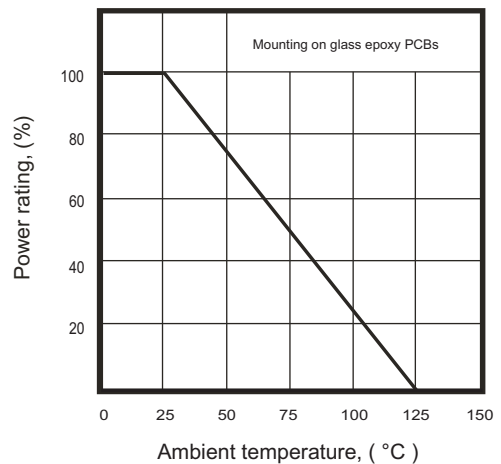
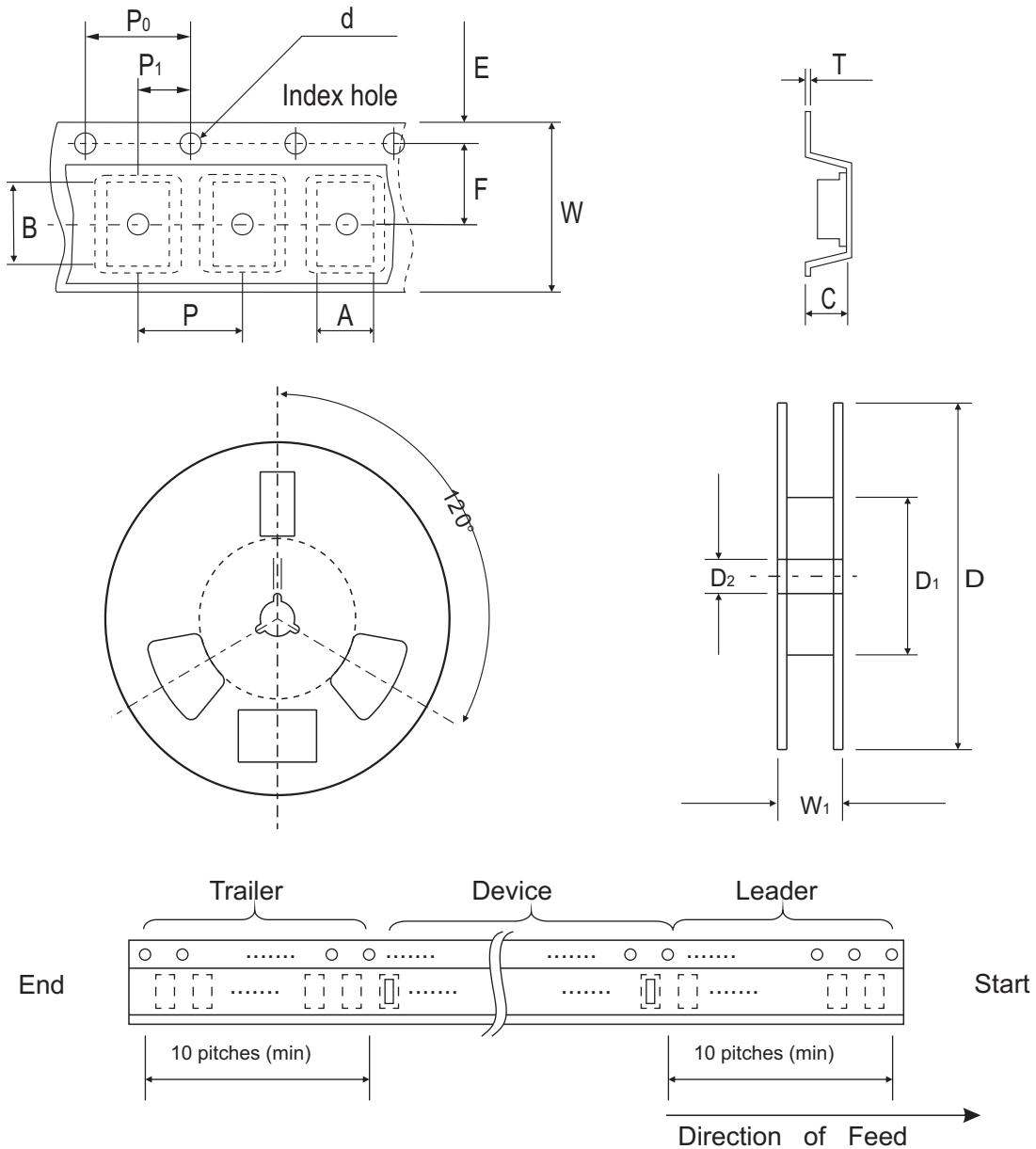


Fig. 4 - Power rating derating curve



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 | 60.0 MIN. | 13.0 ± 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 ± 0.004 | 0.009 ± 0.002 | 0.315 ± 0.008 | 0.531 MAX. |

Marking Code

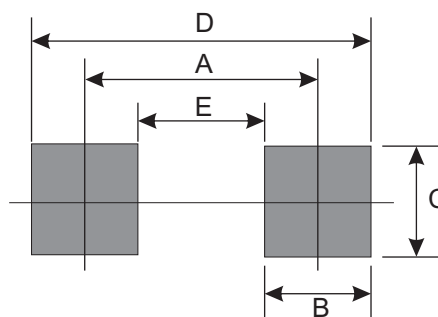
| Part Number | Marking Code |
|-------------|--------------|
| CPDFR5V0-HF | E05 |
| CPDFR12V-HF | E12 |
| CPDFR24V-HF | E24 |



xxx = Product type marking code

Suggested PAD Layout

| SIZE | 1005/SOD-323F | |
|------|---------------|--------|
| | (mm) | (inch) |
| A | 2.00 | 0.079 |
| B | 0.70 | 0.028 |
| C | 1.30 | 0.051 |
| D | 2.70 | 0.106 |
| E | 1.30 | 0.051 |



Standard Packaging

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