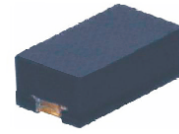


CPDU Series-HF

RoHS Device

Halogen Free



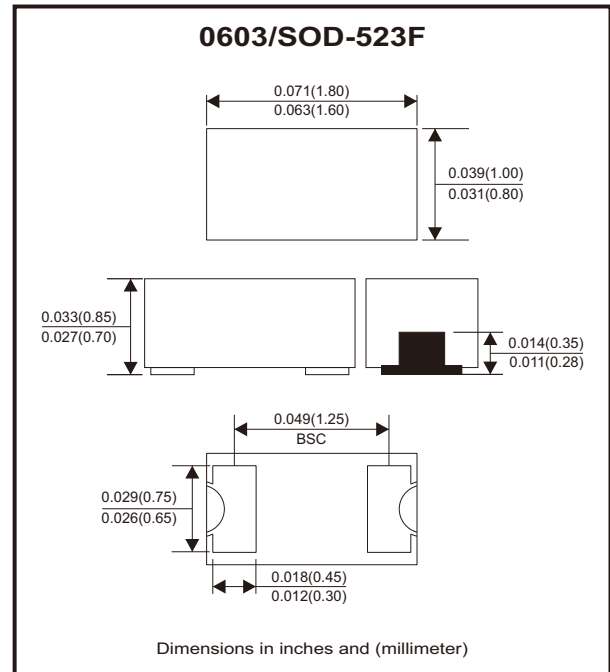
Features

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

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 TA=25°C unless otherwise noted)

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|-----------------------------|---|--------|-----|-----|----------------|------|
| Peak pulse power | CPDU5V0-HF CPDU12V-HF CPDU24V-HF TP = 8/20µs | PPP | | | 75 25 47 | W |
| ESD capability | IEC 61000-4-2(air) IEC 61000-4-2(contact) | ESD | | | 16 8 | kV |
| Operating temperature range | | Tj | -40 | | 125 | °C |
| Storage temperature range | | TSTG | -55 | | 150 | °C |

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

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|-------------------------|--|--------|-----------------|-----------------|----------------------|------|
| Diode breakdown voltage | CPDU5V0-HF CPDU12V-HF CPDU24V-HF IR = 1mA | VBD | 5.1 13 25 | 7.0 17 28 | | V |
| Leakage current | CPDU5V0-HF CPDU12V-HF CPDU24V-HF VR = 5V VR = 12V VR = 24V | IL | | 0.1 | 2.0 | µA |
| Clamping voltage | CPDU5V0-HF CPDU12V-HF CPDU24V-HF IPP = 1A, TP = 8/20µs IPP = 5A, TP = 8/20µs IPP = 1A, TP = 8/20µs IPP = 1A, TP = 8/20µs | Vc | | | 10 15 25 47 | V |
| Junction capacitance | CPDU5V0-HF CPDU12V-HF CPDU24V-HF VR = 0V, f = 1MHz | CT | | 15 12 10 | 20 - | pF |

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Rating and Characteristic Curves (CPDU Series-HF)

Fig.1 - Peak Pulse Current Wave
Form Acc. IEC 61000-4-5

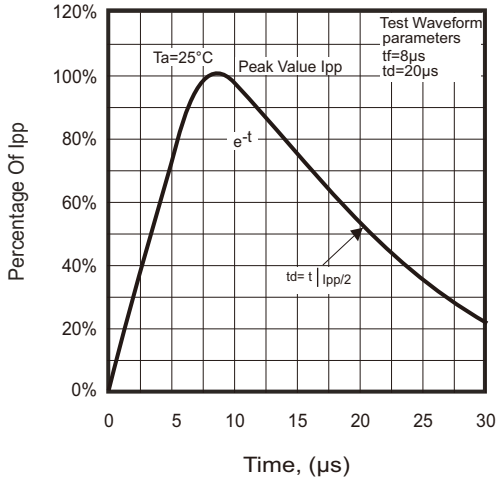


Fig.2-1 - Reverse Characteristics

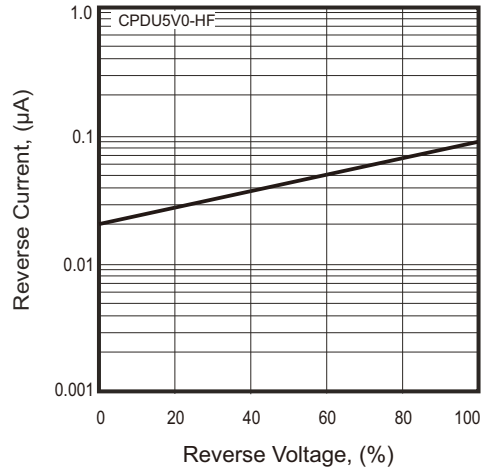


Fig.2-2 - Reverse Characteristics

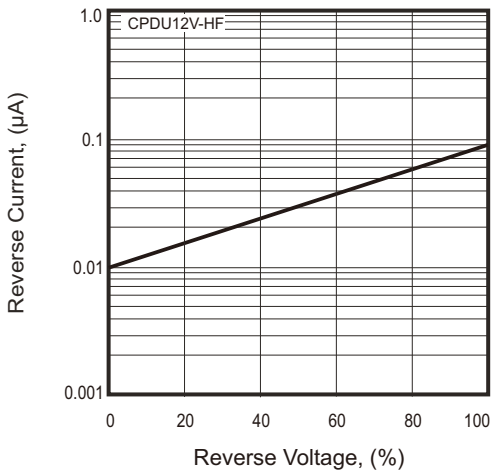


Fig.2-3 - Reverse Characteristics

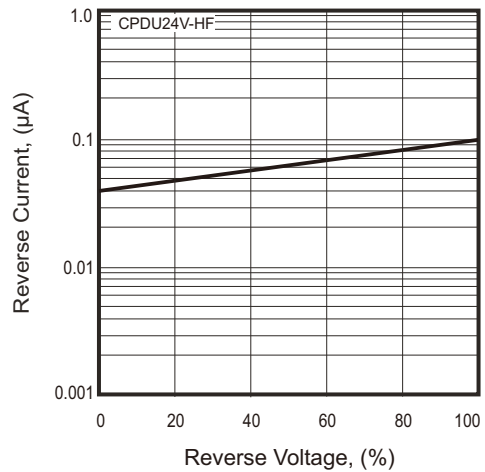


Fig.3 - Capacitance Between
Terminals Characteristics

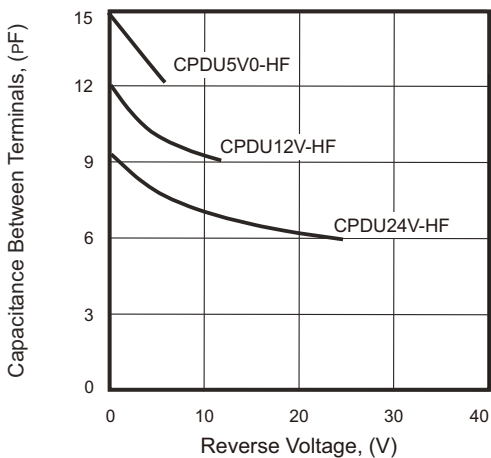
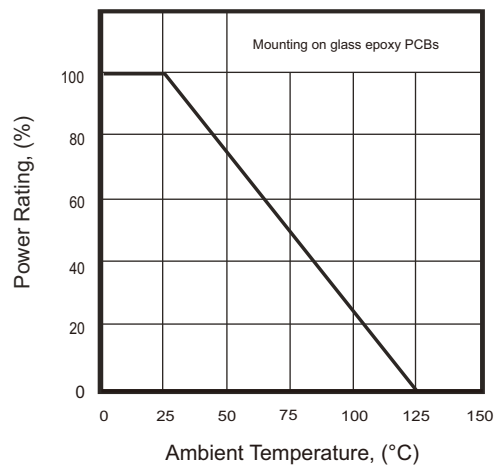


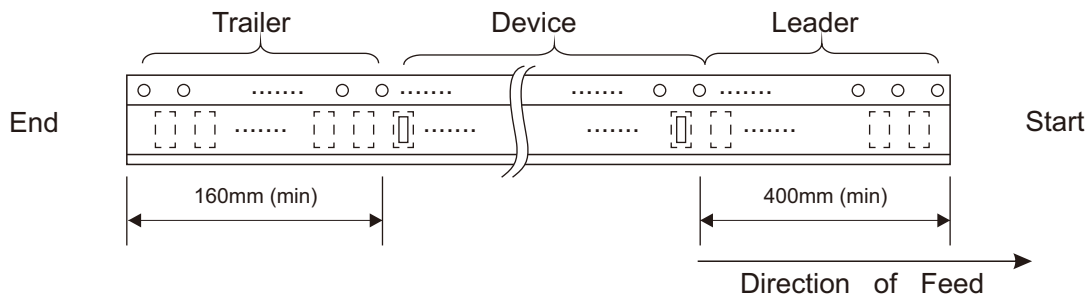
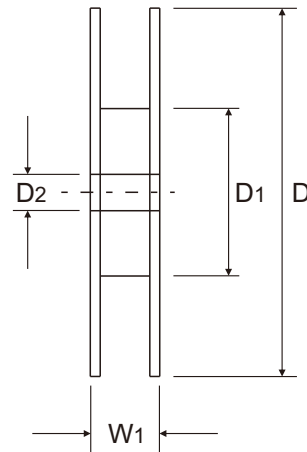
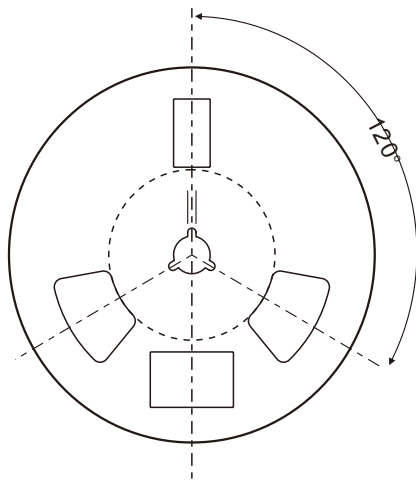
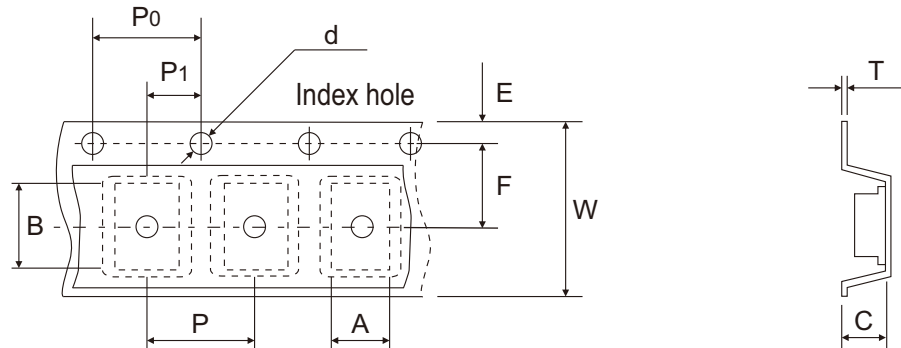
Fig.4 - Power Rating Derating Curve



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REV:G

Reel Taping Specification



| 0603 (SOD-523F) | SYMBOL | A | B | C | d | D | D1 | D2 |
|--------------------|--------|---------------|---------------|---------------|--------------------------|---------------|---------------|---------------|
| | (mm) | 1.16 ± 0.10 | 1.90 ± 0.10 | 0.95 ± 0.10 | 1.50 + 0.10 - 0.00 | 178.00 ± 1.00 | 60.00 ± 0.50 | 13.50 ± 0.20 |
| | (inch) | 0.046 ± 0.004 | 0.075 ± 0.004 | 0.037 ± 0.004 | 0.059 + 0.004 - 0.000 | 7.008 ± 0.039 | 2.362 ± 0.020 | 0.531 ± 0.008 |

| 0603 (SOD-523F) | SYMBOL | E | F | P | P0 | P1 | T | W | W1 |
|--------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------------------|
| | (mm) | 1.75 ± 0.10 | 3.50 ± 0.05 | 4.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.05 | 0.22 ± 0.03 | 8.00 ± 0.20 | 12.00 + 0.50 - 0.00 |
| | (inch) | 0.069 ± 0.004 | 0.138 ± 0.002 | 0.157 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.002 | 0.009 ± 0.001 | 0.315 ± 0.008 | 0.472 + 0.020 - 0.000 |

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Marking Code

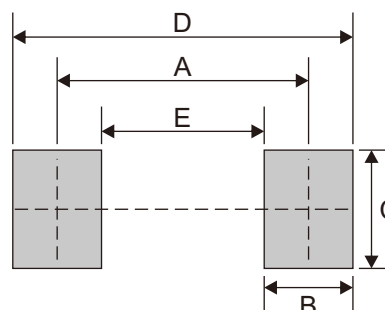
| Part Number | Marking Code |
|-------------|--------------|
| CPDU5V0-HF | E05 |
| CPDU12V-HF | E12 |
| CPDU24V-HF | E24 |



xxx = Product type marking code

Suggested P.C.B. PAD Layout

| SIZE | 0603/SOD-523F | |
|------|---------------|--------|
| | (mm) | (inch) |
| A | 1.70 | 0.067 |
| B | 0.60 | 0.024 |
| C | 0.80 | 0.031 |
| D | 2.30 | 0.091 |
| E | 1.10 | 0.043 |



Standard Packaging

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