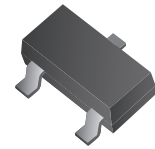


SMD ESD Protection Diode

CPDT-5V0U

RoHS Device

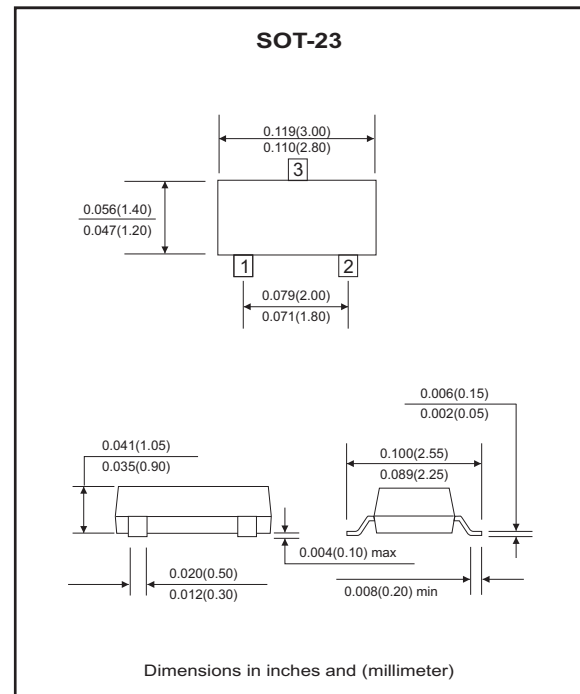
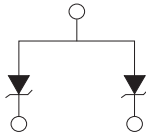


Features

- IEC61000-4-2 8kV(Contact), 15kV(air).
- Surface mount package.
- High component density.

Mechanical data

- Case: SOT-23 Standard package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750D, method 2026.
- Marking code: E5U
- Mounting position: Any.
- Weight: 0.0078 gram (approx.).



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

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|-------------------------|------------------|--|-----|-----|---------|------|
| Diode breakdown voltage | V _{BD} | I _R = 1mA | 6.1 | | 7.1 | V |
| Leakage current | I _L | V _R = 3V | | 0.1 | 1.0 | uA |
| Forward voltage | V _F | I _F = 5uA | | | 1.2 | V |
| Junction capacitance | C _T | V _R = 0V, f = 1MHz | | 60 | 80 | pF |
| Clamping voltage | V _C | I _{PP} = 1A, T _P =8/20us I _{PP} = 8A, T _P =8/20us | | | 8 10 | V |
| ESD capability | ESD | C = 150pF, R = 300ohm, forward and reverse 10 pulses | 8 | | | kV |
| Peak pulse power | P _{PP} | | | | 80 | W |
| Operation temperature | T _J | | | | 125 | °C |
| Storage temperature | T _{STG} | | -55 | | 150 | °C |

SMD ESD Protection Diode

RATING AND CHARACTERISTIC CURVES (CPDT-5V0U)

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

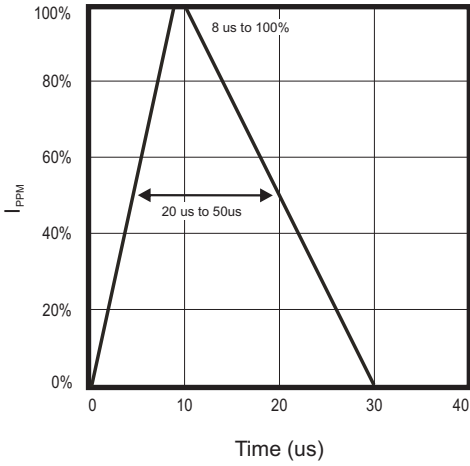


Fig. 2 - Power rating derating curve

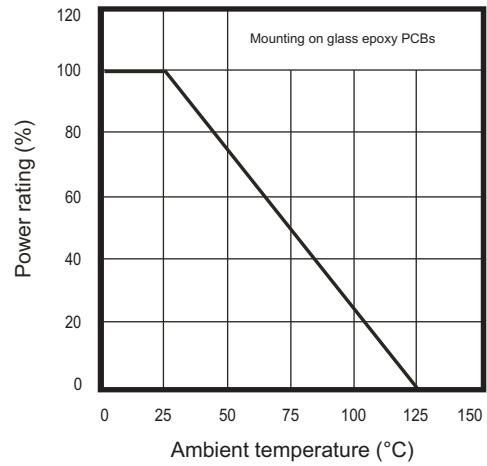


Fig. 3 - Clamping voltage vs. peak pulse current

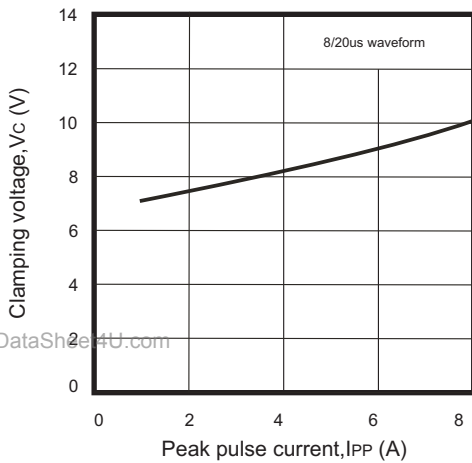
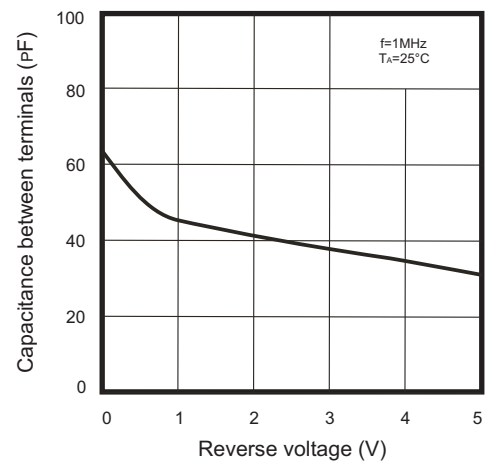


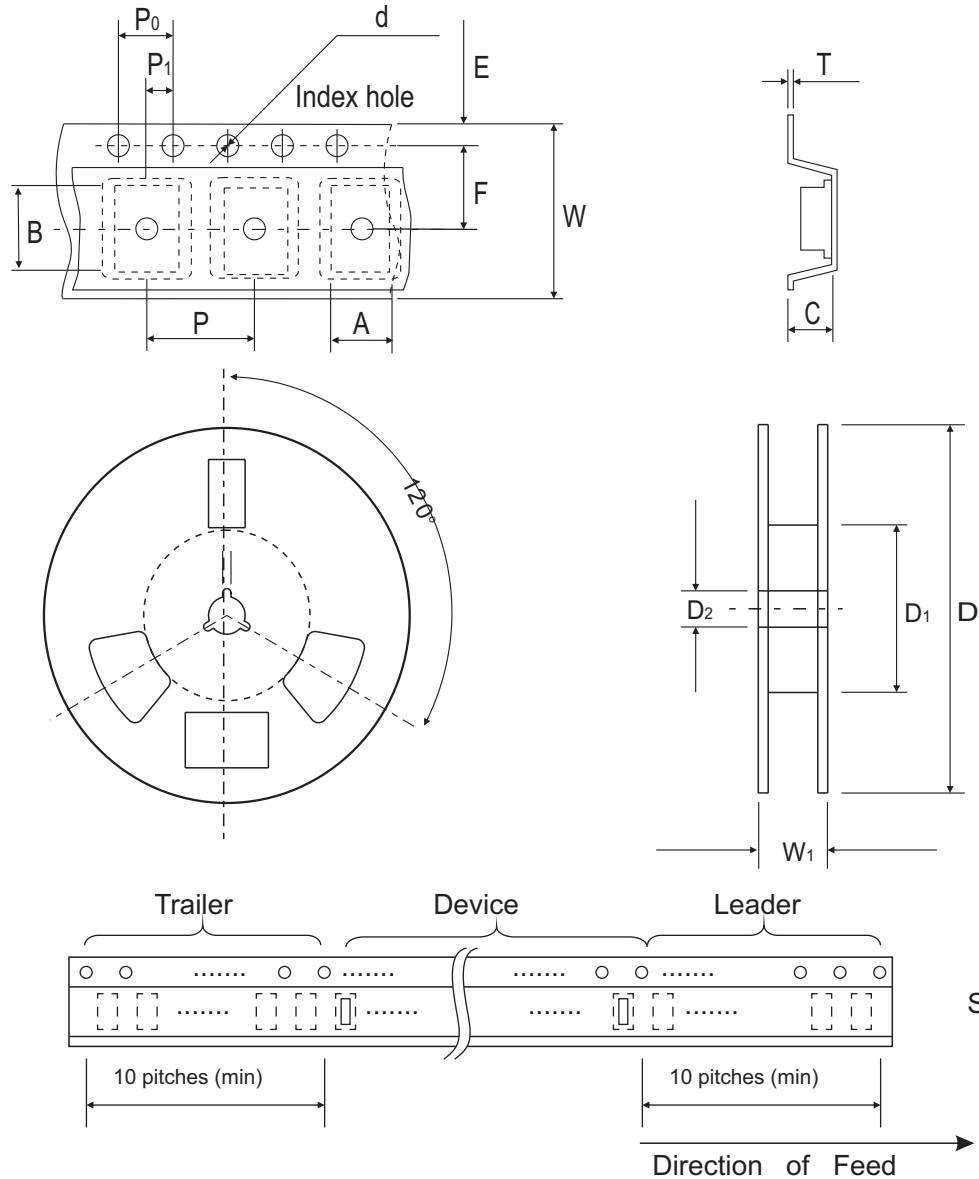
Fig. 4 - Capacitance between terminals characteristics



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SMD ESD Protection Diode

Reel Taping Specification



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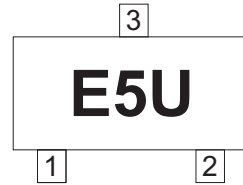
| SOT-23 | SYMBOL | A | B | C | d | D | D ₁ | D ₂ |
|--------|--------|---------------|---------------|---------------|---------------|--------------|----------------|----------------|
| | (mm) | 3.10 ± 0.10 | 2.85 ± 0.10 | 1.40 ± 0.10 | 1.55 ± 0.10 | 178 ± 1 | 50.0 MIN. | 13.0 ± 0.20 |
| | (inch) | 0.122 ± 0.004 | 0.112 ± 0.004 | 0.055 ± 0.004 | 0.061 ± 0.004 | 7.008 ± 0.04 | 1.969 MIN. | 0.512 ± 0.008 |

| SOT-23 | SYMBOL | E | F | P | P ₀ | P ₁ | W | W ₁ |
|--------|--------|---------------|---------------|---------------|----------------|----------------|---------------|----------------|
| | (mm) | 1.75 ± 0.10 | 3.50 ± 0.05 | 4.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.05 | 8.00 ± 0.30 | 14.4 MAX. |
| | (inch) | 0.069 ± 0.004 | 0.138 ± 0.002 | 0.157 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.002 | 0.315 ± 0.012 | 0.567 MAX. |

SMD ESD Protection Diode

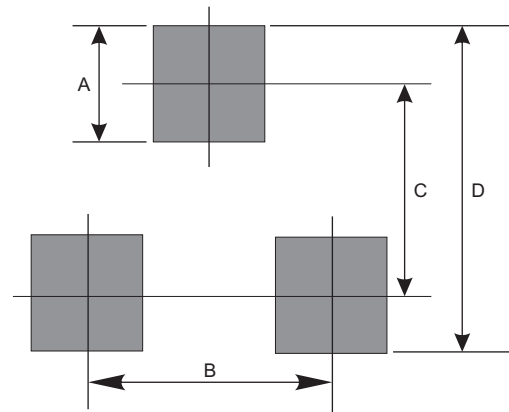
Marking Code

| Part Number | Marking Code |
|-------------|--------------|
| CPDT-5V0U | E5U |



Suggested PAD Layout

| SIZE | SOT-23 | |
|------|--------|--------|
| | (mm) | (inch) |
| A | 0.80 | 0.031 |
| B | 1.90 | 0.075 |
| C | 2.02 | 0.080 |
| D | 2.82 | 0.111 |



Standard Package

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| Case Type | Qty per Reel | Reel Size |
|-----------|--------------|-----------|
| | (Pcs) | (inch) |
| SOT-23 | 3000 | 7 |