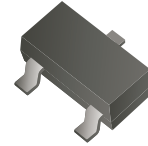


CPDT-3V3UB-HF Thru. CPDT-36VUB-HF

RoHS Device
Halogen Free

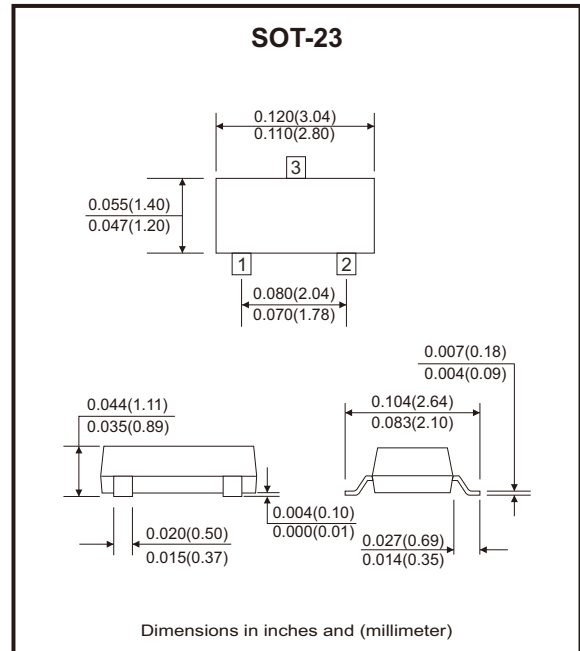


Features

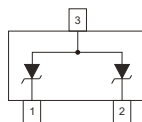
- IEC61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact).
- IEC61000-4-4 (EFT) 40A (5/50ns).
- 350W peak pulse power per ($t_p=8/20\mu\text{s}$).
- Protects one bidirectional line or two unidirectional lines.
- Low clamping voltage.
- Working voltages: 3.3V~36V
- Low leakage current.

Mechanical data

- Case: SOT-23 package.
- Flammability rating: UL 94V-0.
- High temperature soldering guaranteed: $260^\circ\text{C}/10\text{s}$.



Circuit Diagram



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

| Parameter | Symbol | Value | Unit |
|--|-----------|---------------|------------------|
| ESD per IEC 61000-4-2 (air) | V_{ESD} | ± 15 | kV |
| ESD per IEC 61000-4-2 (contact) | | ± 8 | |
| Peak pulse power (8/20 μs) | P_{PP} | 350 | W |
| Operating temperature range | T_{OPT} | -55 to +150 | $^\circ\text{C}$ |
| Storage temperature range | T_{STG} | -55 to +150 | $^\circ\text{C}$ |
| Lead solder temperature | T_L | 260 (10 sec.) | $^\circ\text{C}$ |

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

| Part No. | V _{RWM} (V) Max | V _B (V) Min | I _T (mA) | V _C @1A (V) | V _C (V) | | I _R (μA) Max | C _J (pF) Max |
|---------------|-----------------------------|---------------------------|---------------------|------------------------|--------------------|----|----------------------------|----------------------------|
| | | | | Max | Max | @A | | |
| CPDT-3V3UB-HF | 3.3 | 4 | 1 | 7.0 | 10.5 | 20 | 40 | 450 |
| CPDT-5V0UB-HF | 5 | 6 | 1 | 9.8 | 18 | 17 | 10 | 300 |
| CPDT-8V0UB-HF | 8 | 8.5 | 1 | 13.4 | 24 | 15 | 2 | 240 |
| CPDT-12VUB-HF | 12 | 13.3 | 1 | 19 | 32 | 11 | 1 | 130 |
| CPDT-15VUB-HF | 15 | 16.7 | 1 | 24 | 38 | 10 | 1 | 120 |
| CPDT-18VUB-HF | 18 | 20 | 1 | 29 | 45 | 9 | 1 | 100 |
| CPDT-20VUB-HF | 20 | 22.3 | 1 | 35 | 50 | 8 | 1 | 90 |
| CPDT-24VUB-HF | 24 | 26.7 | 1 | 43 | 52 | 7 | 1 | 80 |
| CPDT-36VUB-HF | 36 | 40 | 1 | 60 | 75 | 5 | 1 | 60 |

Rating and Characteristic Curves (CPDT-3V3UB-HF Thru. CPDT-36VUB-HF)

Fig.1 - Pulse Waveform

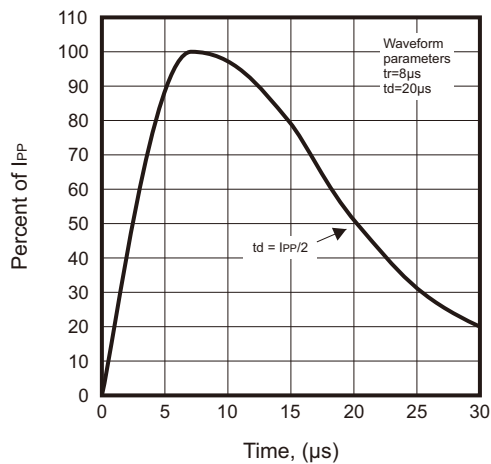
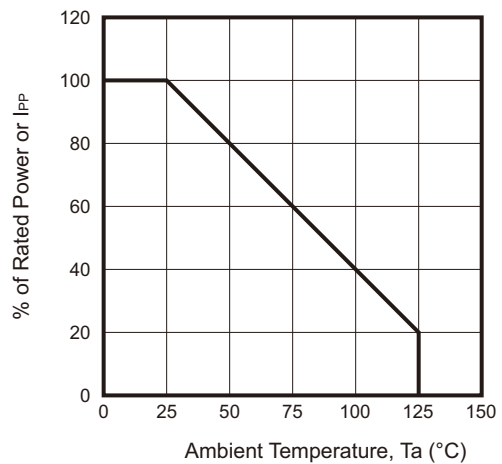
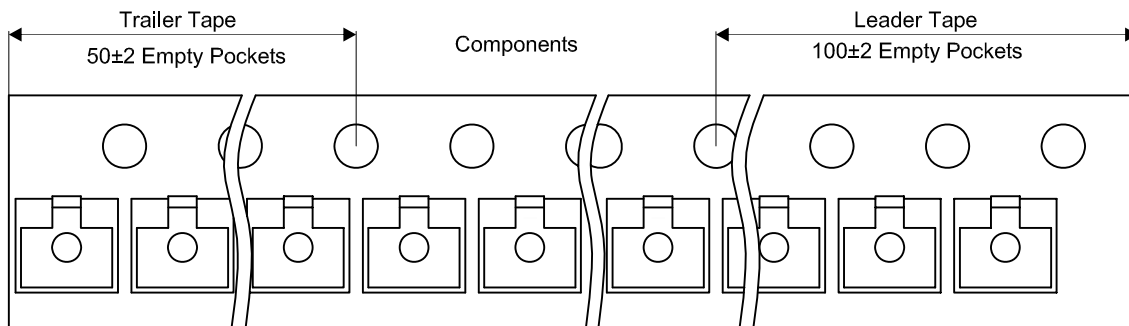
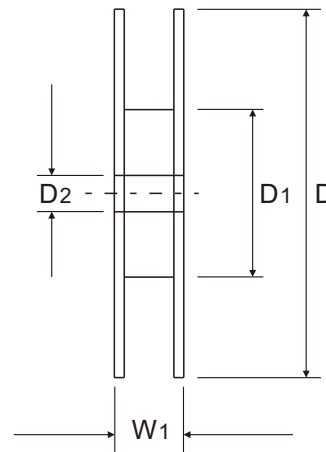
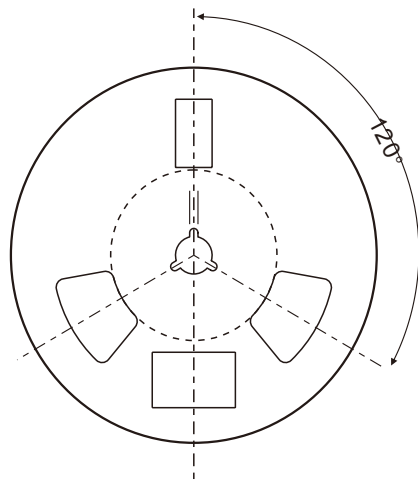
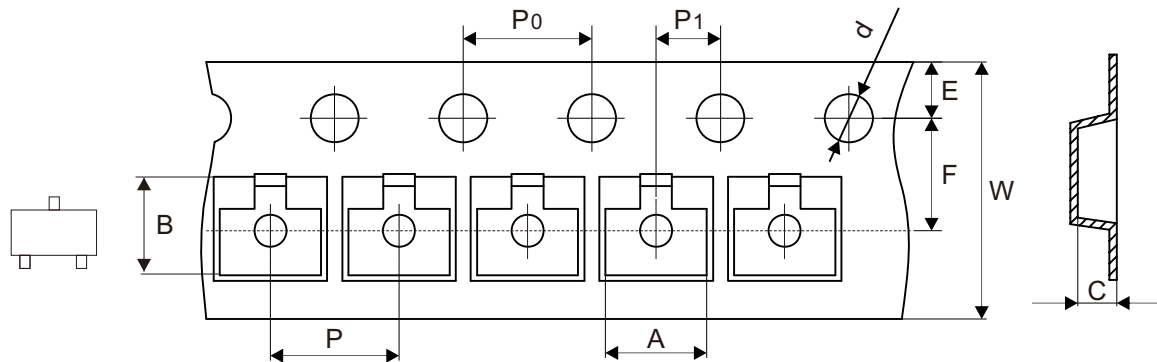


Fig.2 - Power Derating Curve



Reel Taping Specification



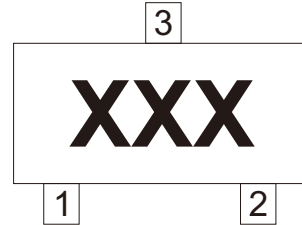
| SOT-23 | SYMBOL | A | B | C | d | D | D1 | D2 |
|--------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | (mm) | 3.15 ± 0.10 | 2.77 ± 0.10 | 1.22 ± 0.10 | 1.50 ± 0.10 | 178.00 ± 2.00 | 54.40 ± 1.00 | 13.00 ± 1.00 |
| | (inch) | 0.124 ± 0.004 | 0.109 ± 0.004 | 0.048 ± 0.004 | 0.059 ± 0.004 | 7.008 ± 0.079 | 2.142 ± 0.039 | 0.512 ± 0.039 |

| SOT-23 | SYMBOL | E | F | P | P0 | P1 | W | W1 |
|--------|--------|---------------|---------------|---------------|---------------|---------------|--------------------------|---------------|
| | (mm) | 1.75 ± 0.10 | 3.50 ± 0.10 | 4.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.10 | 8.00 + 0.30 - 0.10 | 12.30 ± 1.00 |
| | (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 |

Company reserves the right to improve product design, functions and reliability without notice. REV:A

Marking Code

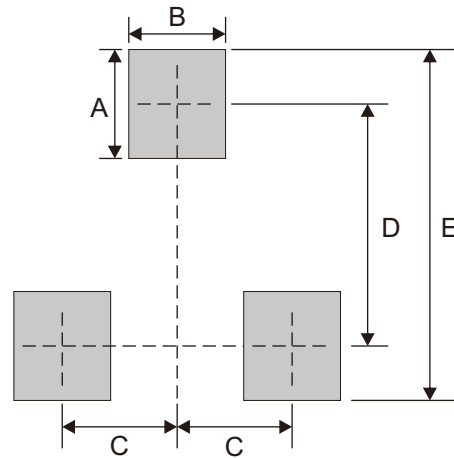
| Part Number | Marking Code |
|---------------|--------------|
| CPDT-3V3UB-HF | M03 |
| CPDT-5V0UB-HF | M05 |
| CPDT-8V0UB-HF | M08 |
| CPDT-12VUB-HF | M12 |
| CPDT-15VUB-HF | M15 |
| CPDT-18VUB-HF | M18 |
| CPDT-20VUB-HF | M20 |
| CPDT-24VUB-HF | M24 |
| CPDT-36VUB-HF | M36 |



xxx = Product type marking code

Suggested PAD Layout

| SIZE | SOT-23 | |
|------|--------|--------|
| | (mm) | (inch) |
| A | 0.90 | 0.035 |
| B | 0.80 | 0.031 |
| C | 0.95 | 0.037 |
| D | 2.00 | 0.079 |
| E | 2.90 | 0.114 |



Note: 1. The pad layout is for reference purposes only.

Standard Packaging

| Case Type | REEL PACK | |
|-----------|------------|------------------|
| | REEL (pcs) | Reel Size (inch) |
| SOT-23 | 3,000 | 7 |

Mouser Electronics

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[CPDT-3V3UB-HF](#) [CPDT-5V0UB-HF](#) [CPDT-8V0UB-HF](#)