

Dual ESD Protection Diode

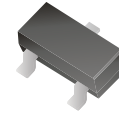


ACPDT-5V0UA-HF Thru. ACPDT-12UA-HF

Voltage: 5.0 to 12 Volts

RoHS Device

Halogen free

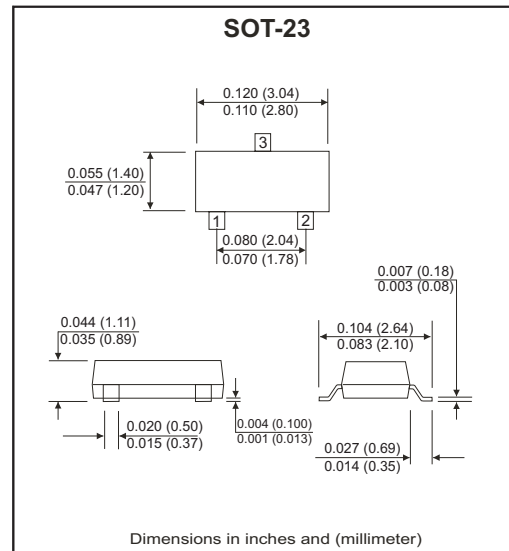


Features

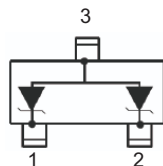
- 2 Unidirectional Transil functions.
- Low Leakage current.
- 300W peak pulse power(8/20 μ s).
- Transient protection for data lines as per.
- IEC61000-4-2 ESD protection.
- Comply with AEC-Q101.

Mechanical data

- Case: SOT-23 , plastic package.
- Mounting position: Any.



Circuit Diagram



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

| Parameter | Symbol | Value | Unit |
|---|------------------|-------------|------|
| Peak pulse power ($t_p = 8/20\mu s$) | PPP | 300 | W |
| Lead temperature for soldering during 10s | T _L | 260 | °C |
| Storage temperature range | T _{STG} | -55 to +150 | °C |
| Operating temperature range | T _{OP} | -40 to +125 | °C |
| Junction temperature | T _J | 150 | °C |
| Electrostatic discharge | | | |
| IEC 61000-4-2(Air discharge) | V _{PP} | 15 | kV |
| IEC 61000-4-2(Contact discharge) | | 8 | |

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

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

| Part No. | Rated Stand-off Voltage | Max. Leakage Current @ V_{RM} | Max. Breakdown Voltage @ 1mA | Max. Clamping Voltage (Note 1) | | Max. Pulse Peak Current @ $t_p=8/20\mu\text{s}$ | Max. Capacitance @ 0V, 1MHz |
|----------------|-------------------------|------------------------------------|---------------------------------|--------------------------------|--------------|--|--------------------------------|
| | | | | @ 1A | @ 5A | | |
| | V_{RM} (V) | I_{RM} (μA) | V_{BR} (V) | V_C (V) | V_C (V) | I_{PPM} (A) | C (pF) |
| ACPDT-5V0UA-HF | 5.0 | 5.0 | 6.0 | 9.8 | 12.5 | 17 | 220 |
| ACPDT-12VUA-HF | 12.0 | 1.0 | 13.3 | 19.0 | 28.0 | 12 | 90 |

NOTES : 1. 8/20 waveform used. (see fig1.)

RATING AND CHARACTERISTIC CURVES (ACPDT-5V0UA-HF Thru. ACPDT-12UA-HF)

Fig.1 - Pulse Waveform

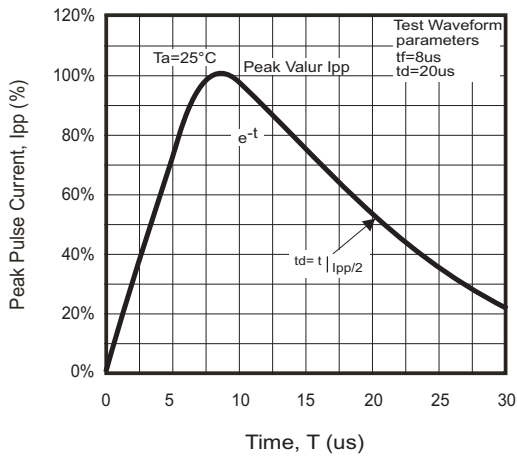


Fig.2 - Power Derating

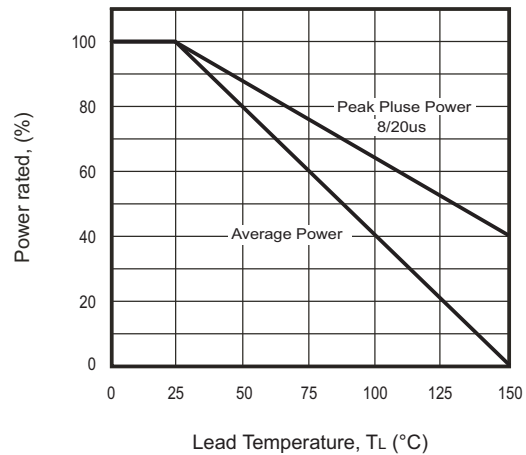
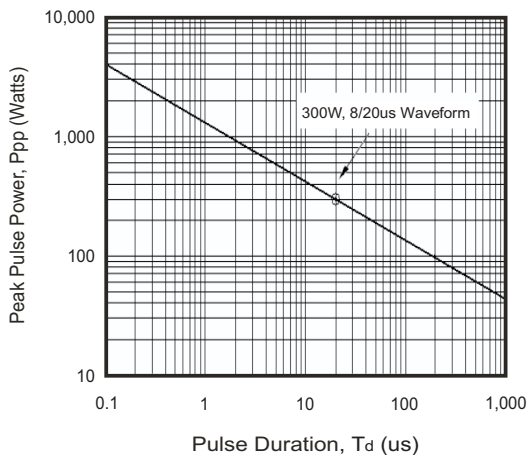


Fig.3 - Peak Pulse Power vs. Pulse Time

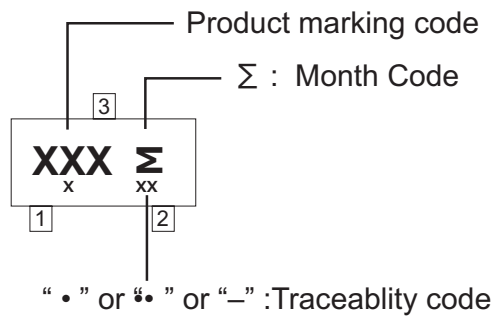


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Marking Code

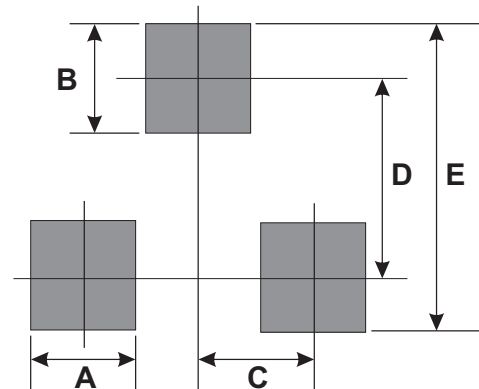
| Part Number | Marking Code |
|----------------|--------------|
| ACPDT-5V0UA-HF | 05C Σ |
| ACPDT-12VUA-HF | 12C Σ |

| Month | Odd Year (per A.D.) | Even Year (per A.D.) |
|-------|---------------------|----------------------|
| Jan | 1 | E |
| Feb | 2 | F |
| Wer | 3 | H |
| Apr | 4 | J |
| May | 5 | K |
| Jun | 6 | L |
| Jul | 7 | N |
| Aug | 8 | P |
| Sep | 9 | U |
| Oct | T | X |
| Nov | V | Y |
| Dec | C | Z |



Suggested PAD Layout

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



Standard Packaging

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

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REV: B