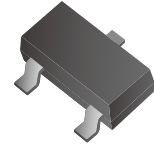


# ACPDT-24VE-HF

RoHS Device

Halogen Free



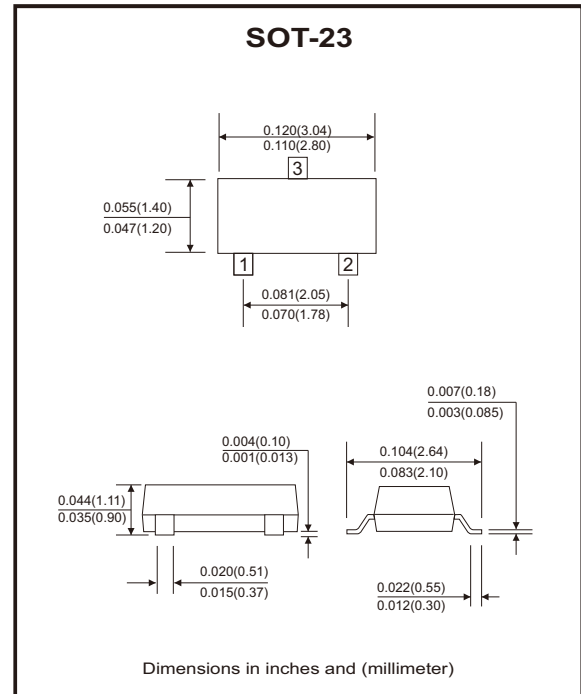
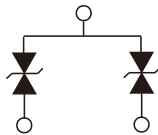
## Features

- Common anode ESD protection.
- IEC61000-4-2 Level 4 ESD protection.
- Surface mount package.
- High component density.
- AEC-Q101 Qualified.

## Mechanical data

- Case: SOT-23 Standard package, molded plastic.
- Terminals: Solderable per MIL-STD-750, method 2026.
- Mounting position: Any.

## Circuit Diagram



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

| Parameter                 | Conditions                                   | Symbol    | Value         | Unit             |
|---------------------------|----------------------------------------------|-----------|---------------|------------------|
| Peak pulse power          | $T_P = 8/20\mu\text{s}$                      | $P_{PP}$  | 138           | W                |
| Peak pulse current        | $T_P = 8/20\mu\text{s}$                      | $I_{PP}$  | 3             | A                |
| ESD capability            | IEC 61000-4-2(air)<br>IEC 61000-4-2(contact) | ESD       | $\pm 30$      | kV               |
| Operating temperature     |                                              | $T_j$     | $-55\sim+125$ | $^\circ\text{C}$ |
| Storage temperature range |                                              | $T_{STG}$ | $-55\sim+150$ | $^\circ\text{C}$ |

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

| Parameter                 | Conditions                                                                                 | Symbol    | Min  | Typ | Max      | Unit          |
|---------------------------|--------------------------------------------------------------------------------------------|-----------|------|-----|----------|---------------|
| Reverse stand-off voltage |                                                                                            | $V_{RWM}$ |      |     | 24       | V             |
| Breakdown voltage         | $I_R = 1\text{mA}$                                                                         | $V_{BR}$  | 26.5 |     |          | V             |
| Reverse leakage current   | $V_R = 24\text{V}$                                                                         | $I_R$     |      |     | 0.1      | $\mu\text{A}$ |
| Clamping voltage          | $I_{PP} = 1\text{A}, T_P = 8/20\mu\text{s}$<br>$I_{PP} = 3\text{A}, T_P = 8/20\mu\text{s}$ | $V_C$     |      |     | 36<br>46 | V             |
| Junction capacitance      | $V_R = 0\text{V}, f = 1\text{MHz}$                                                         | $C_J$     |      | 13  | 20       | pF            |

Rating and Characteristic Curves (CPDT-24VE-HF)

Fig.1 - 8/20μs Peak Pulse Current Waveform ACC. IEC 61000-4-5

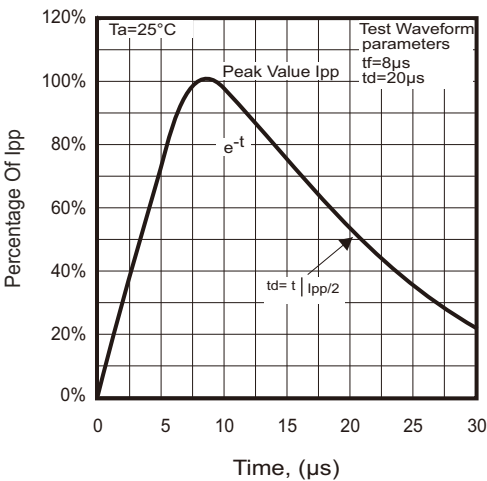


Fig.2 - Power Rating Derating Curve

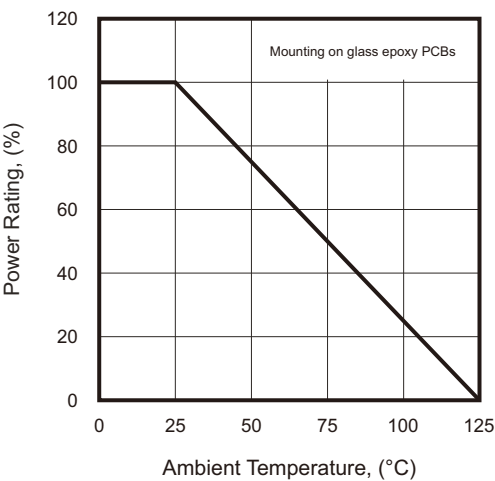


Fig.3 - Clamping Voltage Vs. Peak Pulse Current

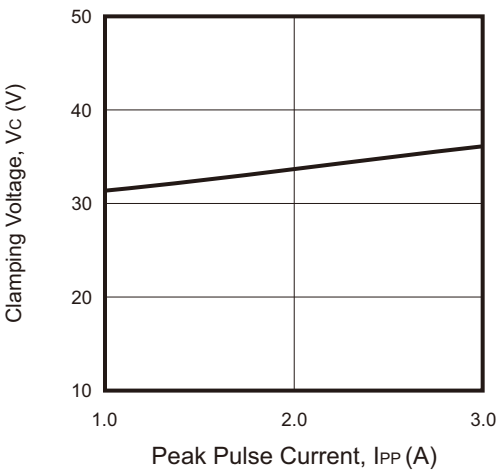
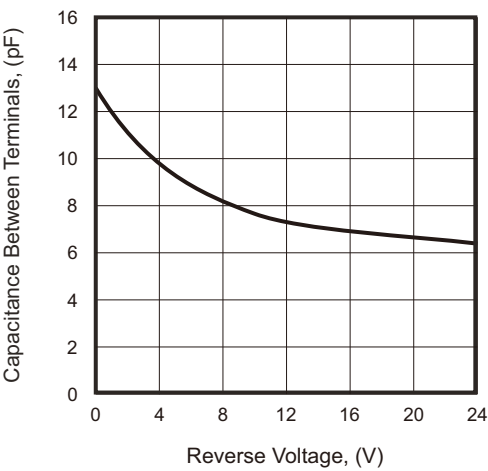
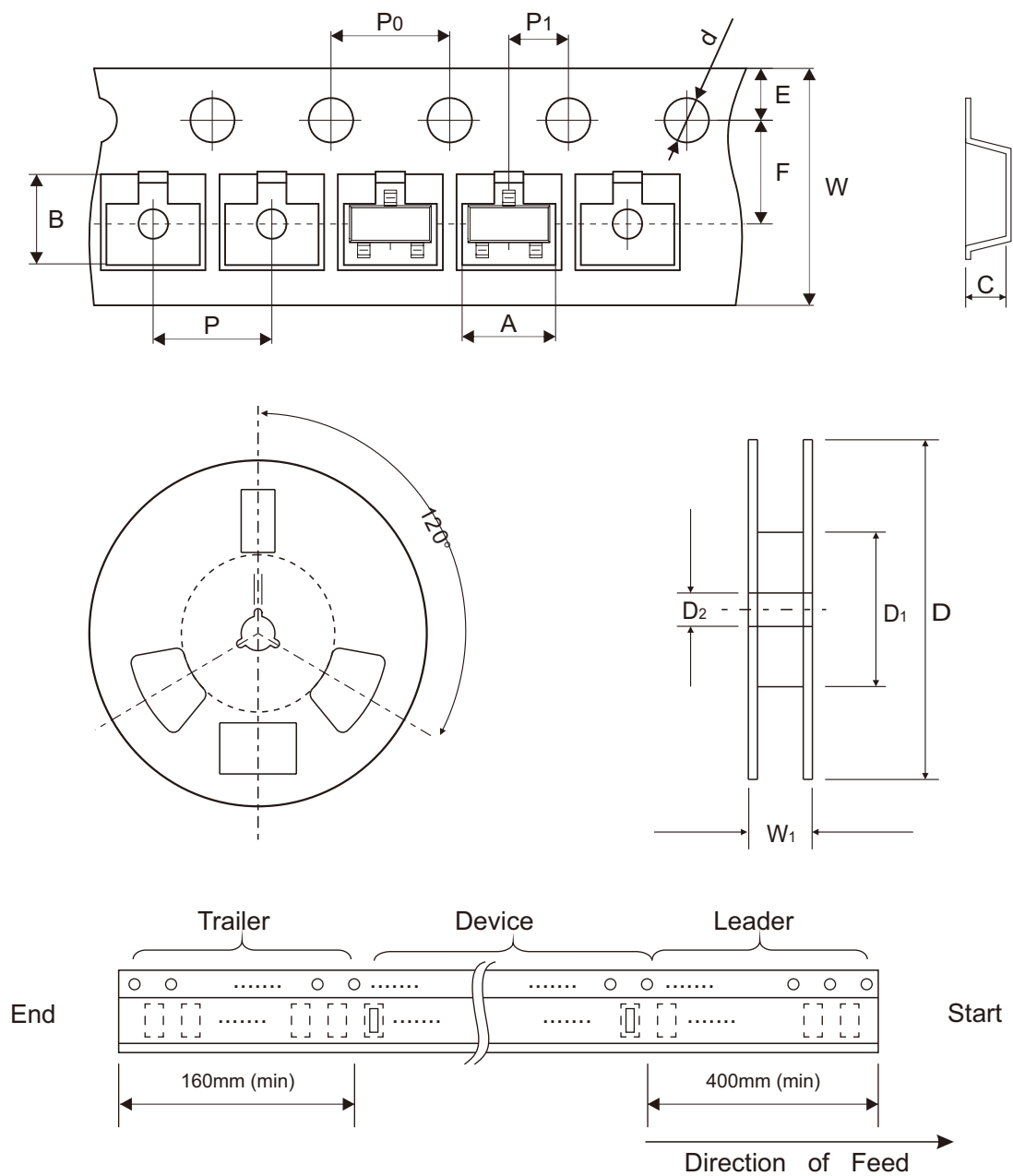


Fig.4 - Capacitance Between Terminals Characteristics



## Reel Taping Specification



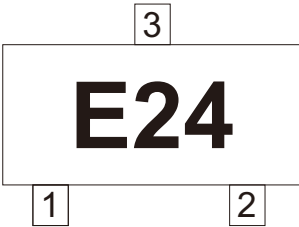
| SOT-23 | SYMBOL | A                 | B                 | C                 | d                       | D                 | D1                | D2                |
|--------|--------|-------------------|-------------------|-------------------|-------------------------|-------------------|-------------------|-------------------|
|        | (mm)   | $3.15 \pm 0.10$   | $2.77 \pm 0.10$   | $1.22 \pm 0.10$   | $1.50 + 0.10 - 0.00$    | $178.00 \pm 1.00$ | $54.40 \pm 0.50$  | $13.00 \pm 0.20$  |
|        | (inch) | $0.124 \pm 0.004$ | $0.109 \pm 0.004$ | $0.048 \pm 0.004$ | $0.059 + 0.004 - 0.000$ | $7.008 \pm 0.039$ | $2.142 \pm 0.020$ | $0.512 \pm 0.008$ |

| SOT-23 | SYMBOL | E                 | F                 | P                 | P0                | P1                | W                       | W1                |
|--------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------------|-------------------|
|        | (mm)   | $1.75 \pm 0.10$   | $3.50 \pm 0.10$   | $4.00 \pm 0.10$   | $4.00 \pm 0.10$   | $2.00 \pm 0.05$   | $8.00 + 0.30 - 0.10$    | $13.10 \pm 1.30$  |
|        | (inch) | $0.069 \pm 0.004$ | $0.138 \pm 0.004$ | $0.157 \pm 0.004$ | $0.157 \pm 0.004$ | $0.079 \pm 0.002$ | $0.315 + 0.012 - 0.004$ | $0.516 \pm 0.051$ |

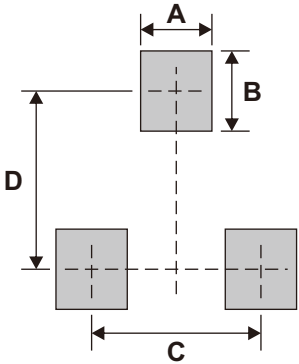
Marking Code

| Part Number  | Marking Code |
|--------------|--------------|
| CPDT-24VE-HF | E24          |



Suggested PAD Layout

| SIZE | SOT-23 |        |
|------|--------|--------|
|      | (mm)   | (inch) |
| A    | 0.80   | 0.031  |
| B    | 0.90   | 0.035  |
| C    | 1.90   | 0.075  |
| D    | 2.00   | 0.079  |



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

Standard Packaging

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