

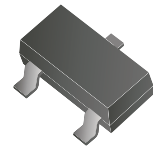
# CDST-16-HF/4148-HF/914-HF

**Reverse Voltage: 75 Volts**

**Forward Current: 200 mA**

**RoHS Device**

**Halogen Free**



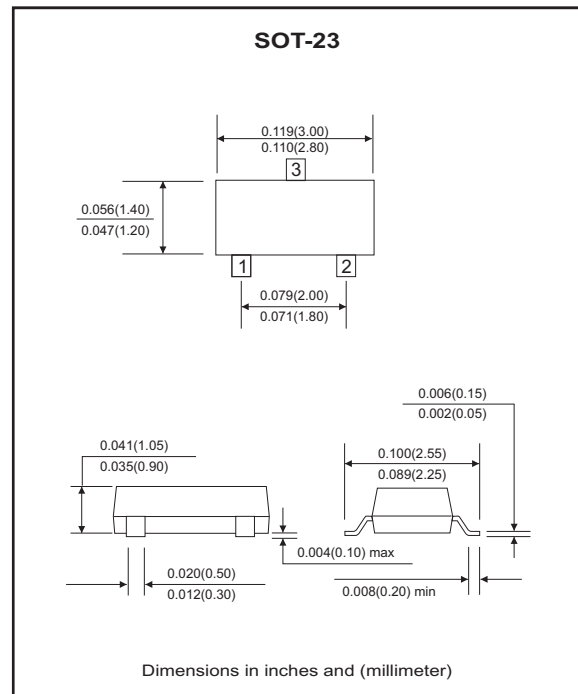
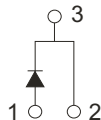
## Features

- Design for mounting on small surface.
- High speed switching.
- High mounting capability, strong surge withstand, high reliability.

## Mechanical data

- Case: SOT-23, molded plastic.
- Terminals: solderable per MIL-STD-750, method 2026.
- Approx. weight: 0.0078 grams

## Circuit diagram



## Maximum Ratings and Electrical Characteristics (at Ta=25°C unless otherwise noted)

| Parameter                       | Symbol    | Conditions                                                                             | Value                         | Units      |
|---------------------------------|-----------|----------------------------------------------------------------------------------------|-------------------------------|------------|
| Repetitive peak reverse voltage | $V_{RRM}$ |                                                                                        | 75                            | V          |
| Reverse voltage                 | $V_R$     |                                                                                        | 75                            | V          |
| Forward current                 | $I_F$     |                                                                                        | 200                           | mA         |
| Peak surge forward current      | $I_{FSM}$ | $T=1.0 \mu S$                                                                          | 2                             | A          |
| Power dissipation               | $P_D$     |                                                                                        | 225                           | mW         |
| Maximum forward voltage         | $V_F$     | $@I_F=1mA$<br>$@I_F=10mA$<br>$@I_F=50mA$<br>$@I_F=150mA$                               | 0.715<br>0.855<br>1.0<br>1.25 | V          |
| Maximum reverse current         | $I_R$     | $@V_R=20V$<br>$@V_R=75V$<br>$@V_R=25V, T_J=150^\circ C$<br>$@V_R=75V, T_J=150^\circ C$ | 0.025<br>2.5<br>30<br>50      | $\mu A$    |
| Maximum reverse recovery time   | $T_{rr}$  | $I_F=10mA, V_R=6V$                                                                     | 4                             | nS         |
| Typical diode capacitance       | $C_J$     | $V_R=0V, f=1.0MHz$                                                                     | 2                             | pF         |
| Maximum junction temperature    | $T_J$     |                                                                                        | 150                           | $^\circ C$ |
| Storage temperature             | $T_{STG}$ |                                                                                        | -55 to +150                   | $^\circ C$ |

## RATING AND CHARACTERISTIC CURVES (CDST-16-HF/4148-HF/914-HF)

Fig.1 - Forward Characteristics

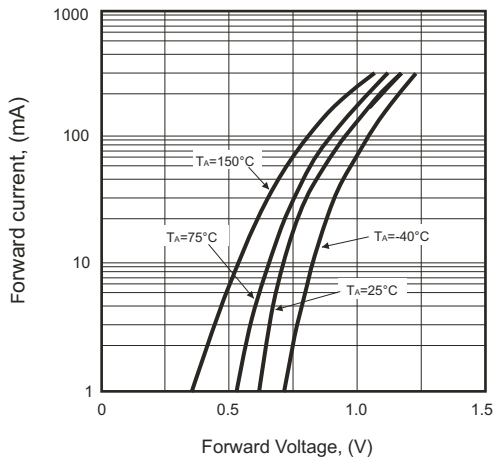


Fig.2 - Reverse Characteristics

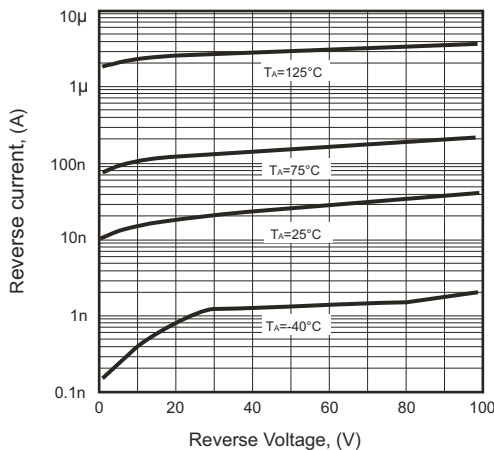


Fig.3 - Capacitance Between Terminals Characteristics

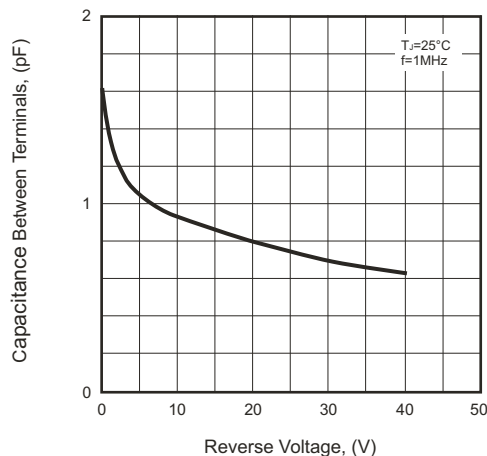
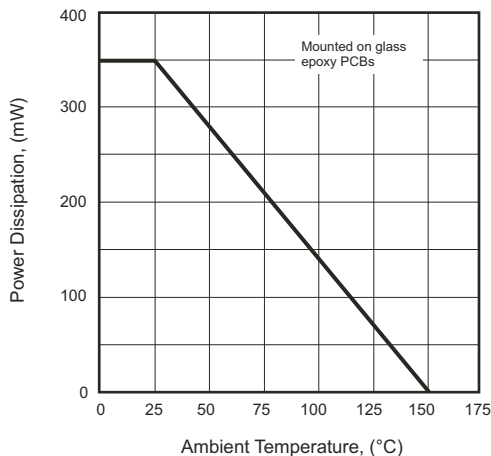
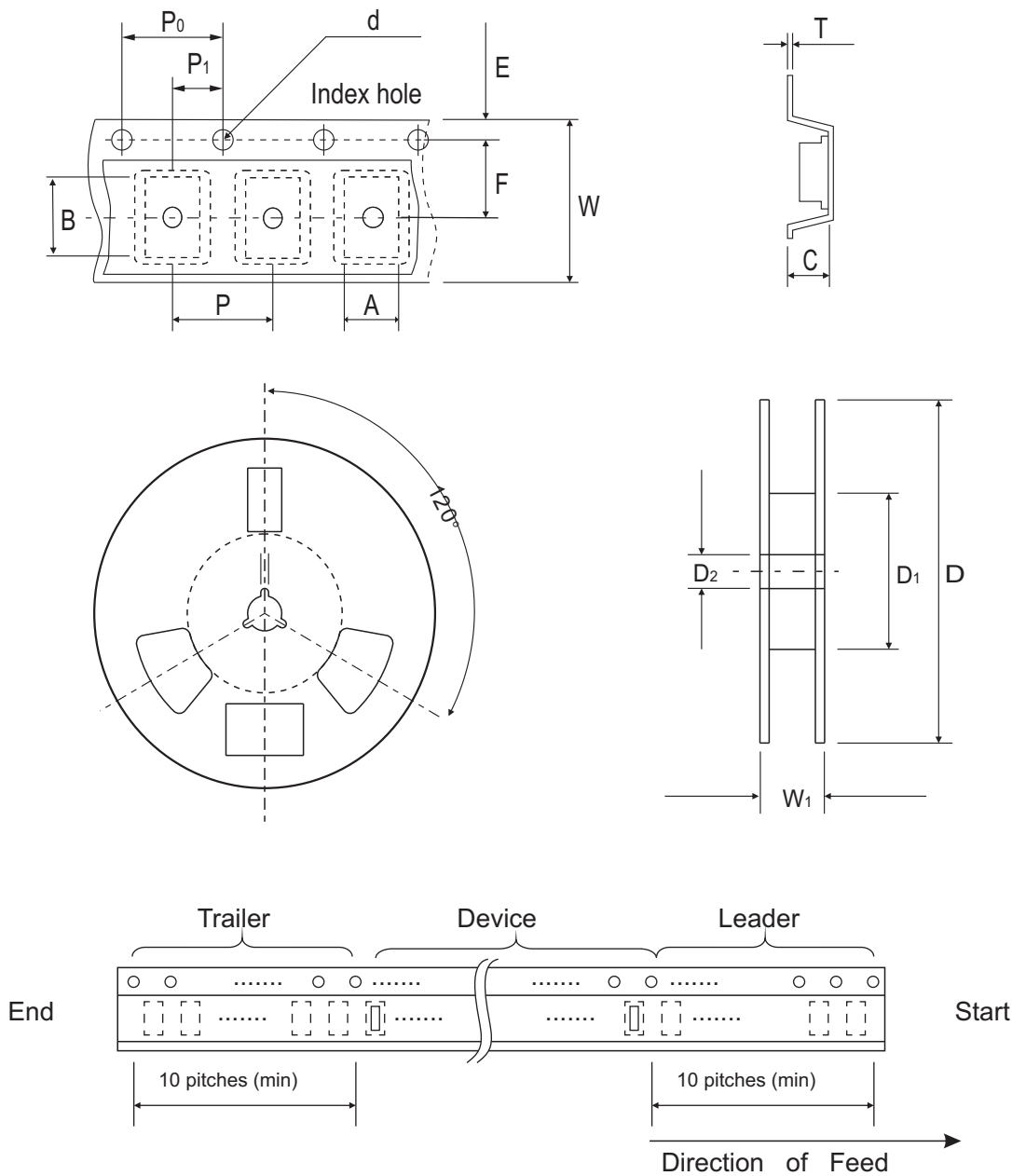


Fig.4 - Power Derating Curve



## Reel Taping Specification

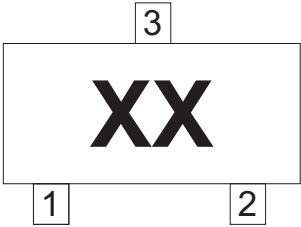


| SOT-23 | SYMBOL | A                 | B                 | C                 | d                 | D                 | D1                    | D2                |
|--------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-----------------------|-------------------|
|        | (mm)   | $3.10 \pm 0.10$   | $2.85 \pm 0.10$   | $1.40 \pm 0.10$   | $1.55 \pm 0.10$   | $178 \pm 1.00$    | $54.00 \text{ (min)}$ | $13.00 \pm 0.20$  |
|        | (inch) | $0.122 \pm 0.004$ | $0.112 \pm 0.004$ | $0.055 \pm 0.004$ | $0.061 \pm 0.004$ | $7.008 \pm 0.039$ | $1.969 \text{ (min)}$ | $0.512 \pm 0.008$ |

| SOT-23 | SYMBOL | E                 | F                 | P                 | P0                | P1                | W                 | W1                    |
|--------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-----------------------|
|        | (mm)   | $1.75 \pm 0.10$   | $3.50 \pm 0.05$   | $4.00 \pm 0.10$   | $4.00 \pm 0.10$   | $2.00 \pm 0.05$   | $8.00 \pm 0.30$   | $14.40 \text{ (max)}$ |
|        | (inch) | $0.069 \pm 0.004$ | $0.138 \pm 0.002$ | $0.157 \pm 0.004$ | $0.157 \pm 0.004$ | $0.079 \pm 0.002$ | $0.315 \pm 0.012$ | $0.567 \text{ (max)}$ |

## Marking Code

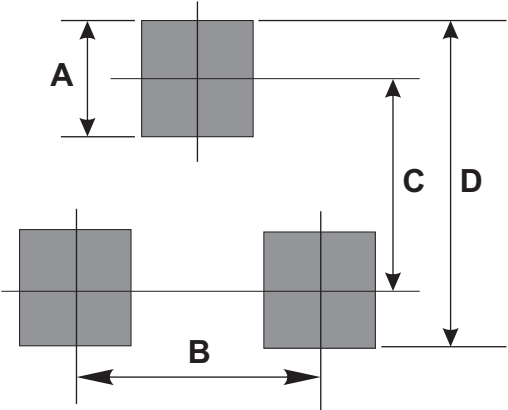
| Part Number  | Marking Code |
|--------------|--------------|
| CDST-16-HF   | A6           |
| CDST-4148-HF | KA2          |
| CDST-914-HF  | 5D           |



XX = Product type marking code

## 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 Packaging

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