

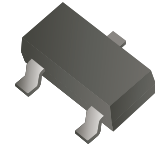
CDST-99-HF/70-HF/56-HF

Reverse Voltage: 70 Volts

Forward Current: 200 mA

RoHS Device

Halogen Free



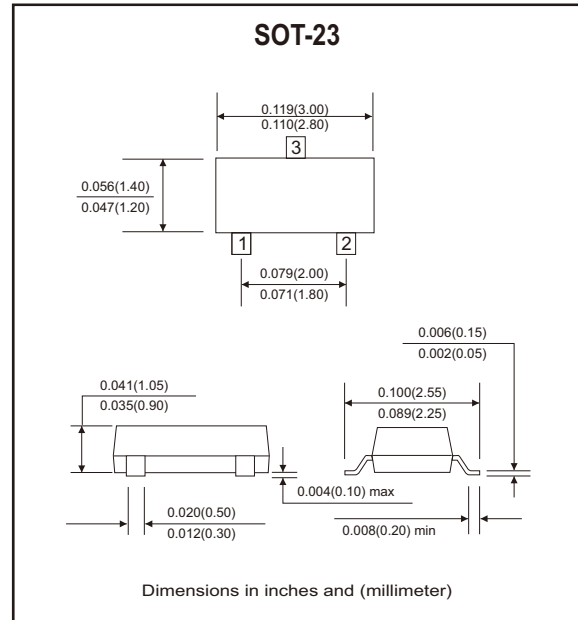
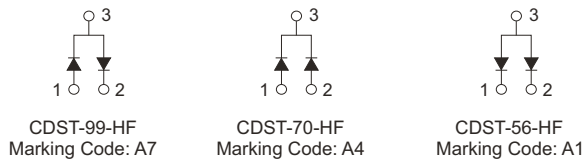
Features

- 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 (at Ta=25°C unless otherwise noted)

| Parameter | Symbol | Value | Units |
|---|-----------------|-------------|-------|
| Reverse voltage | V_R | 70 | V |
| Forward current | I_F | 200 | mA |
| Peak surge forward current | I_{FSM} | 500 | mA |
| Power dissipation | P_D | 225 | mW |
| Thermal resistance, junction to ambient | $R_{\theta JA}$ | 556 | °C/W |
| Maximum junction temperature | T_J | 150 | °C |
| Storage temperature | T_{STG} | -55 to +150 | °C |

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

| Parameter | Symbol | Conditions | Min. | Max. | Units |
|---------------------------|----------|---|------|-------------------------------|---------|
| Reverse breakdown voltage | V_{BR} | $I_R=100\mu A$ | 70 | | V |
| Forward voltage | V_F | @ $I_F=1mA$ @ $I_F=10mA$ @ $I_F=50mA$ @ $I_F=150mA$ | | 0.715 0.855 1.0 1.25 | V |
| Reverse current | I_R | @ $V_R=70V$ | | 2.5 | μA |
| Reverse recovery time | t_{rr} | $I_F=I_R=10mA$, $I_{rr}=0.1 \times I_R$, $R_L=100\Omega$ | | 6 | nS |
| Diode capacitance | C_T | $V_R=0V$, $f=1.0MHz$ | | 1.5 | pF |

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

REV:A

RATING AND CHARACTERISTIC CURVES (CDST-99-HF/70-HF/56-HF)

Fig.1 - Forward Characteristics

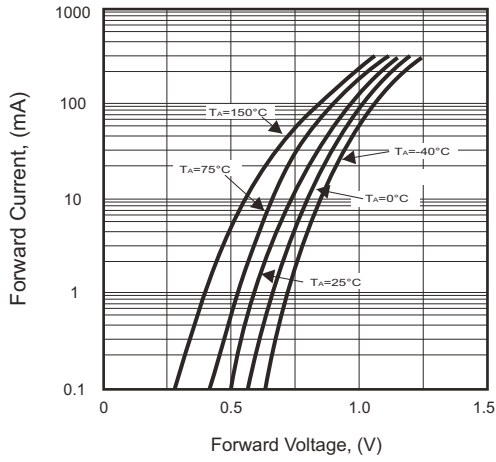


Fig.2 - Reverse Characteristics

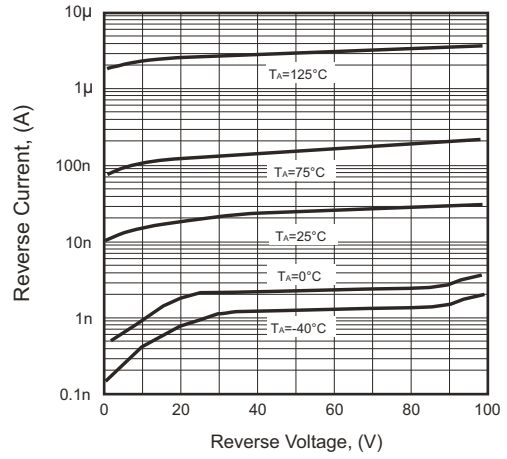


Fig.3 - Capacitance Between Terminals Characteristics

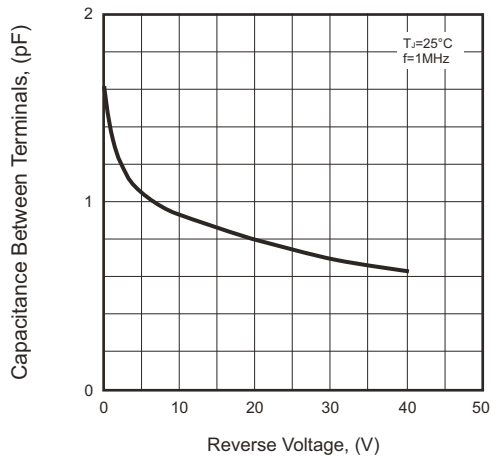
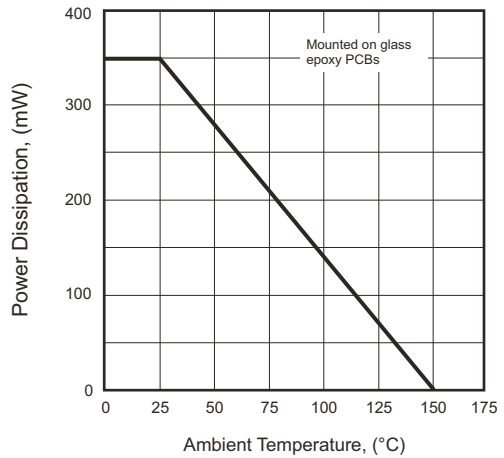
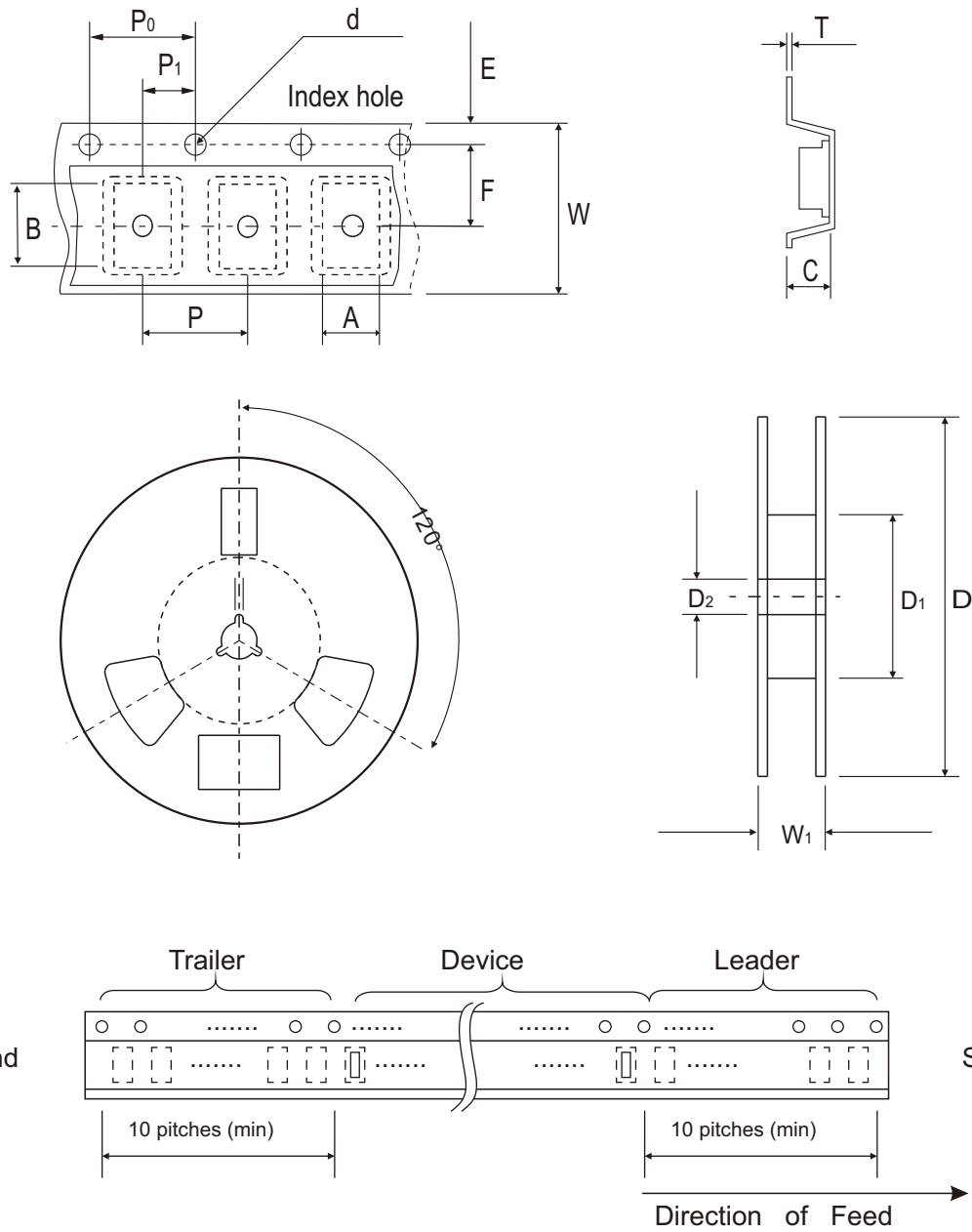


Fig.4 - Power Derating Curve



Reel Taping Specification



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

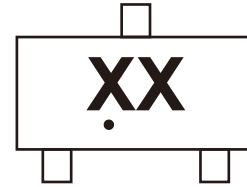
| SOT-23 | SYMBOL | E | F | P | P0 | P1 | W | W1 |
|--------|--------|---------------|---------------|---------------|---------------|---------------|---------------|-------------|
| | (mm) | 1.75 ± 0.10 | 3.50 ± 0.05 | 4.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.05 | 8.00 ± 0.30 | 14.40 (max) |
| | (inch) | 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) |

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

REV:A

Marking Code

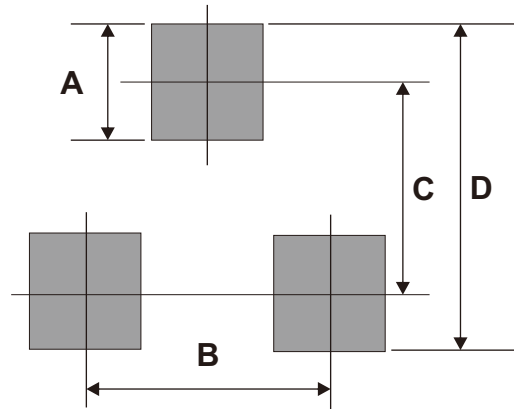
| Part Number | Marking Code |
|-------------|--------------|
| CDST-99-HF | A7 |
| CDST-70-HF | A4 |
| CDST-56-HF | A1 |



Solid dot = Control code
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 (pcs) | Reel Size (inch) |
| SOT-23 | 3,000 | 7 |