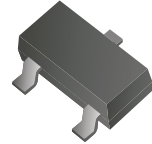


## CDSH3-56-G/70-G/99-G

Reverse Voltage: 85 Volts

Forward Current: 75 mA

RoHS Device



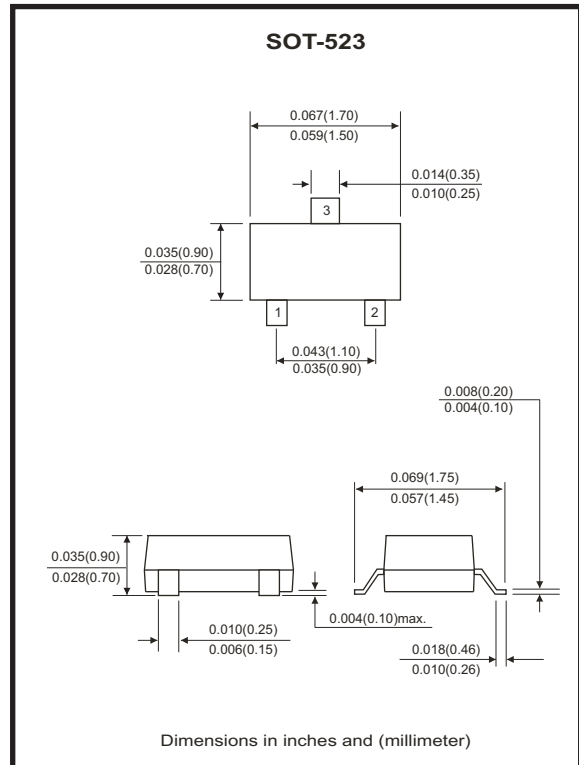
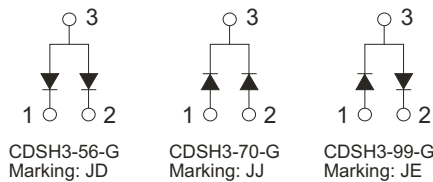
### Features

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

### Mechanical data

- Case: SOT-523, molded plastic.
- Terminals: Solderable per MIL-STD-750, method 2026.
- Weight: 0.002 grams(Approx.).

### Circuit diagram



### Maximum Rating (at Ta=25°C unless otherwise noted)

| Parameter  | Symbol           | Value    | Unit |
|--|------------------|----------|------|
| Reverse voltage                                      | V <sub>R</sub>   | 85       | V    |
| Forward current                                      | I <sub>F</sub>   | 75       | mA   |
| Non-Repetitive peak forward surge current @ t=8.3 ms | I <sub>FSM</sub> | 2        | A    |
| Power dissipation                                    | P <sub>d</sub>   | 150      | mW   |
| Thermal resistance from junction to ambient          | R <sub>θJA</sub> | 833      | °C/W |
| Junction temperature range                           | T <sub>j</sub>   | -40~+150 | °C   |
| Storage temperature range                            | T <sub>STG</sub> | -55~+150 | °C   |

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

| Parameter                     | Conditions   | Symbol     | Min | Typ | Max  | Unit          |
|-------------------------------|--|------------|-----|-----|------|---------------|
| Reverse breakdown voltage     | $I_R = 1\mu\text{A}$   | $V_{(BR)}$ | 85  |     |      | V             |
| Reverse current               | $V_{R1} = 75\text{V}$  | $I_{R1}$   |     |     | 2    | $\mu\text{A}$ |
|                               | $V_{R2} = 25\text{V}$  | $I_{R2}$   |     |     | 0.03 | $\mu\text{A}$ |
| Forward voltage (note 1)      | $I_F = 1\text{mA}$   | $V_{F1}$   |     |     | 715  | mV            |
|                               | $I_F = 10\text{mA}$  | $V_{F2}$   |     |     | 855  |               |
|                               | $I_F = 50\text{mA}$  | $V_{F3}$   |     |     | 1000 |               |
|                               | $I_F = 150\text{mA}$   | $V_{F4}$   |     |     | 1250 |               |
| Capacitance between terminals | $f = 1\text{MHz}$ and $V_R=0\text{V}$  | $C_J$      |     |     | 1.5  | pF            |
| Reverse recovery time         | $I_F = I_R = 10\text{mA}$ ,<br>$I_{rr} = 0.1 \times I_R$ , $R_L = 100\Omega$ | $T_{RR}$   |     |     | 4    | nS            |

Notes: Pulse test width  $p_w=300\mu\text{ sec}$ , 1% duty cycle

## RATING AND CHARACTERISTIC CURVES (CDSH3-56-G/70-G/99-G)

Fig.1 - Forward Characteristics

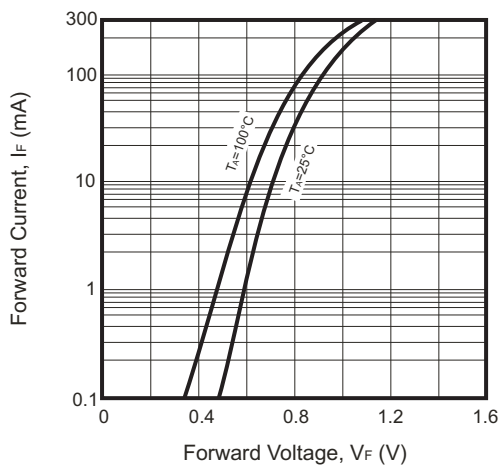


Fig.2 - Reverse Characteristics

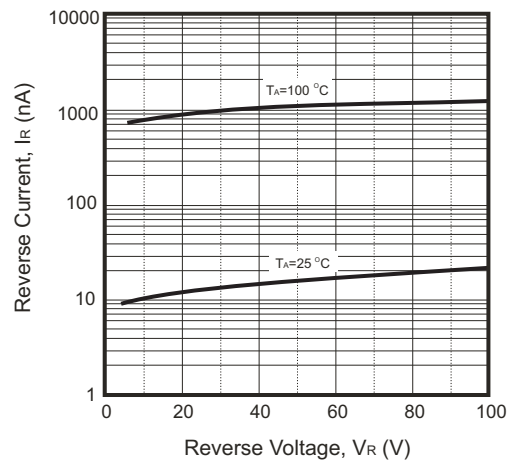


Fig.3 - Capacitance Characteristics

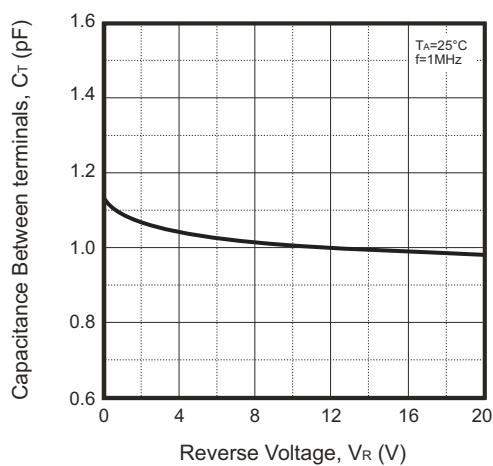
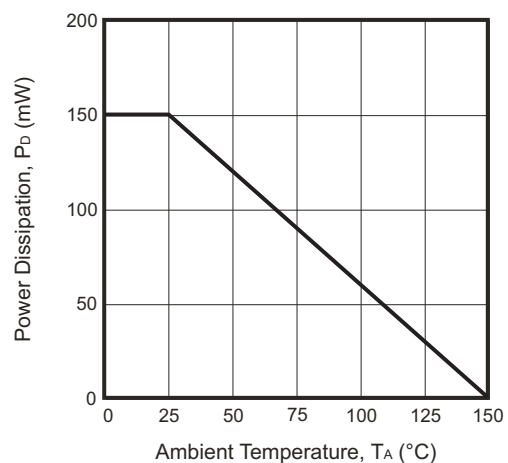
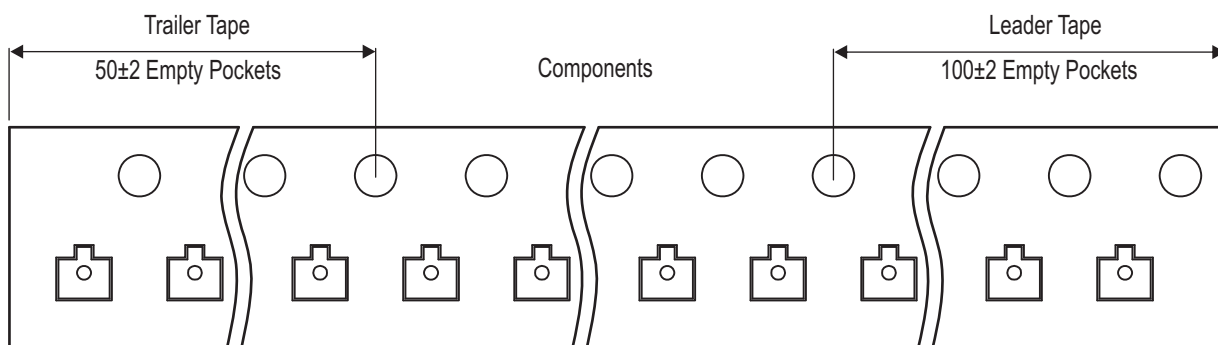
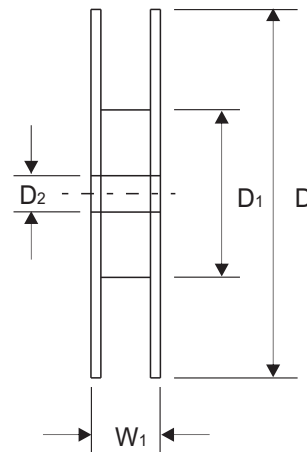
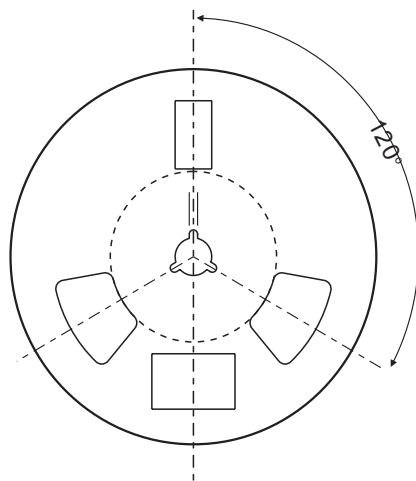
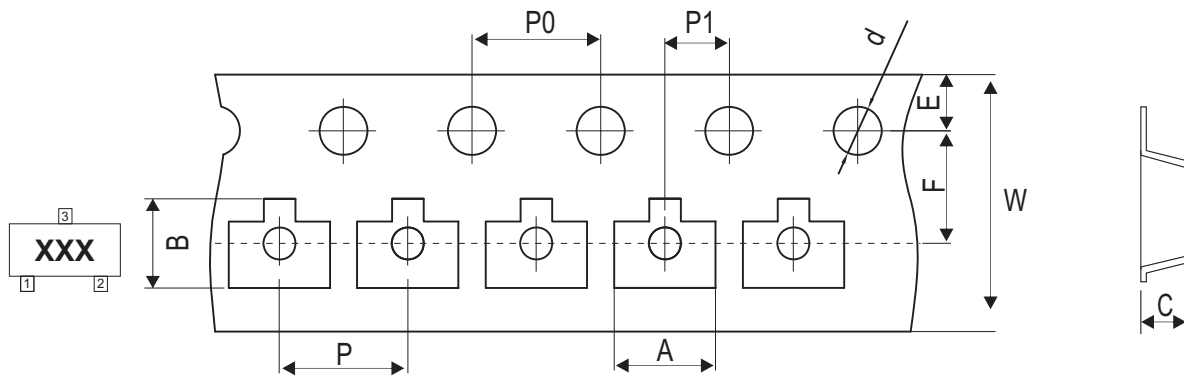


Fig.4 - Power Derating Curve



## Reel Taping Specification



| SOT-523 | SYMBOL | A             | B             | C             | d             | D             | D1            | D2            |
|---------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|         | (mm)   | 1.85 ± 0.05   | 1.85 ± 0.05   | 0.88 ± 0.05   | 1.50 ± 0.10   | 178.00 ± 2.00 | 54.40 ± 1.00  | 13.00 ± 1.00  |
|         | (inch) | 0.073 ± 0.002 | 0.073 ± 0.002 | 0.035 ± 0.002 | 0.059 ± 0.004 | 7.008 ± 0.079 | 2.142 ± 0.039 | 0.512 ± 0.039 |

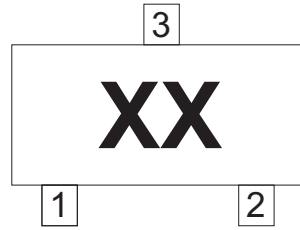
| SOT-523 | SYMBOL | E             | F             | P             | P0            | P1            | W                       | W1            |
|---------|--------|---------------|---------------|---------------|---------------|---------------|-------------------------|---------------|
|         | (mm)   | 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:B

## Marking Code

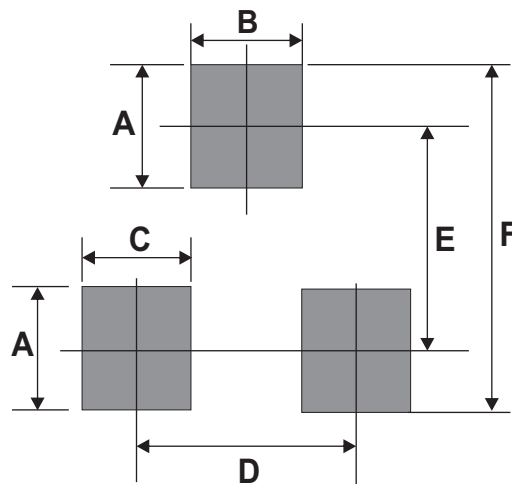
| Part Number | Marking Code |
|-------------|--------------|
| CDSH3-56-G  | JD           |
| CDSH3-70-G  | JJ           |
| CDSH3-99-G  | JE           |



xx = Product type marking code

## Suggested PAD Layout

| SIZE | SOT-523 |        |
|------|---------|--------|
|      | (mm)    | (inch) |
| A    | 0.60    | 0.024  |
| B    | 0.50    | 0.020  |
| C    | 0.40    | 0.016  |
| D    | 1.00    | 0.039  |
| E    | 1.24    | 0.049  |
| F    | 1.84    | 0.072  |



## Standard Packaging

| Case Type | REEL PACK    |                  |
|-----------|--------------|------------------|
|           | REEL ( pcs ) | Reel Size (inch) |
| SOT-523   | 3,000        | 7                |