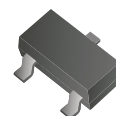


# ACDST-99-G/70-G

**Reverse Voltage: 70 Volts**
**Forward Current: 200 mA**
**RoHS Device**


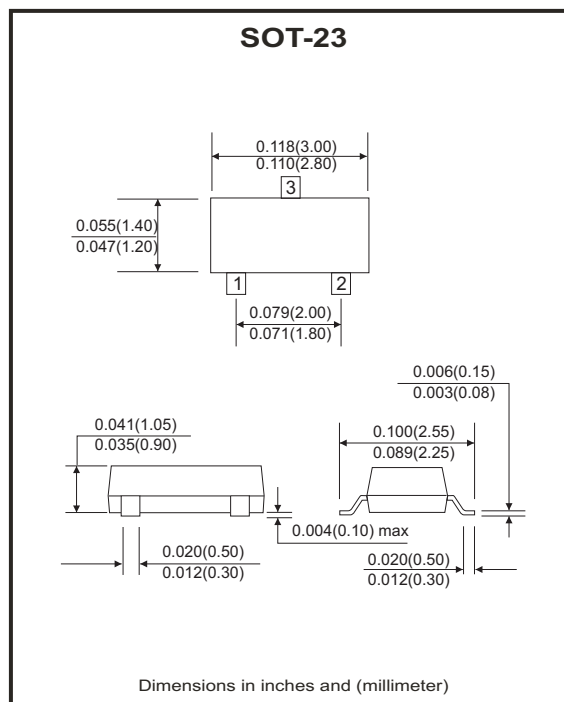
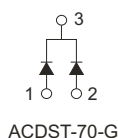
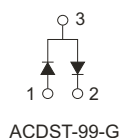
## Features

- Fast switching speed.
- High mounting capability, strong surge withstand, high reliability.
- Comply with AEC-Q101.

## 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          | Limit       | Units |
|----------------------------------------|-----------------|-------------|-------|
| Reverse voltage                        | $V_R$           | 70          | V     |
| Forward current                        | $I_F$           | 200         | mA    |
| Peak forward surge current             | $I_{FSM}$       | 500         | mA    |
| Power dissipation                      | $P_D$           | 225         | mW    |
| Thermal resistance junction to ambient | $R_{\theta JA}$ | 556         | °C/W  |
| Junction temperature                   | $T_J$           | 150         | °C    |
| Storage temperature range              | $T_{STG}$       | -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               | $V_F$    | $@I_F=1mA$<br>$@I_F=10mA$<br>$@I_F=50mA$<br>$@I_F=150mA$      |      | 0.715<br>0.855<br>1.0<br>1.25 | V       |
| Reverse current               | $I_R$    | $@V_R=70V$                                                    |      | 2.5                           | $\mu A$ |
| Reverse recovery time         | $t_{rr}$ | $I_F=I_R=10mA$ , $I_{rr}=0.1 \times I_R$ ,<br>$R_L=100\Omega$ |      | 6                             | nS      |
| Capacitance between terminals | $C_T$    | $V_R=0V$ , $f=1.0MHz$                                         |      | 1.5                           | pF      |

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

REV:A

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

Fig.1 - Forward Characteristics

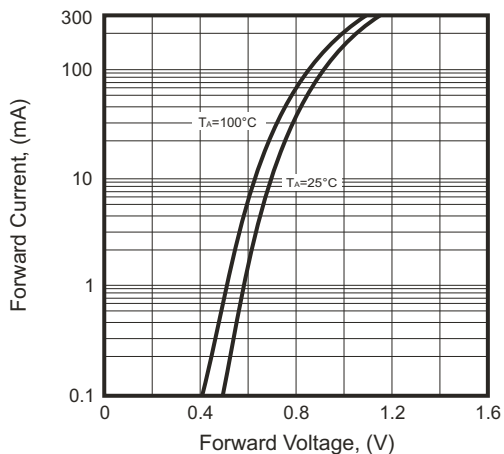


Fig.2 - Reverse Characteristics

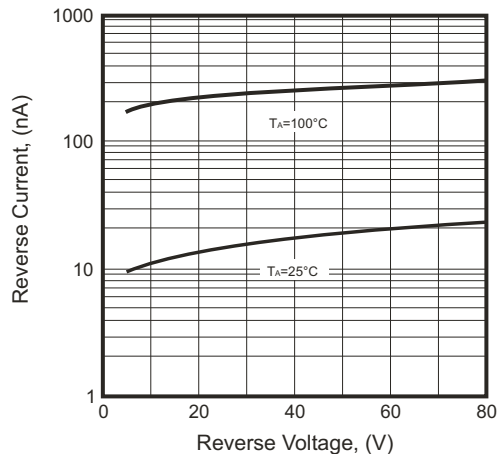


Fig.3 - Capacitance Between Terminals Characteristics

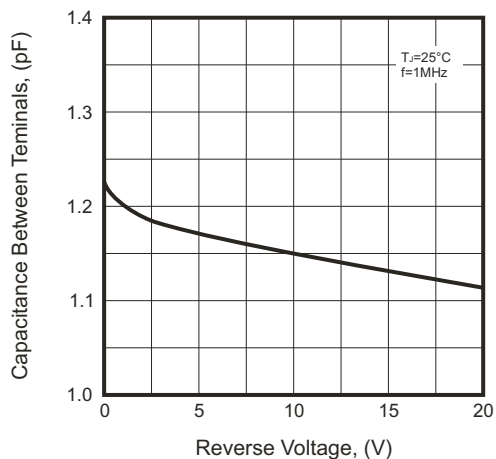
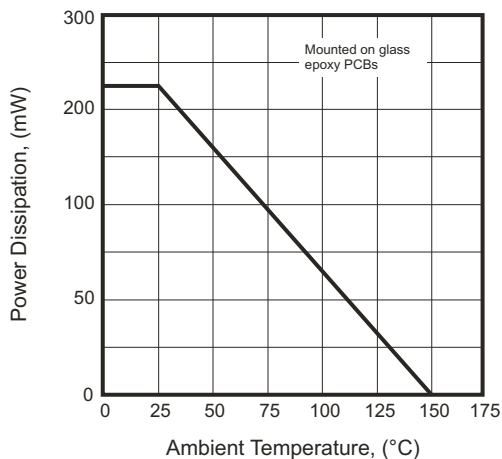
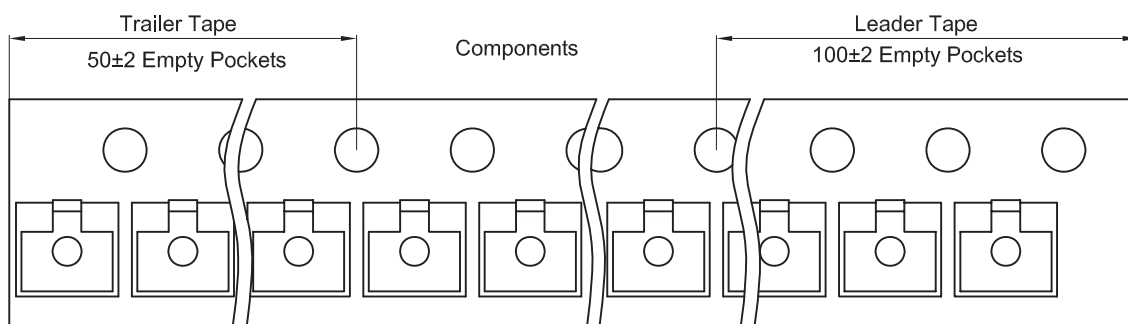
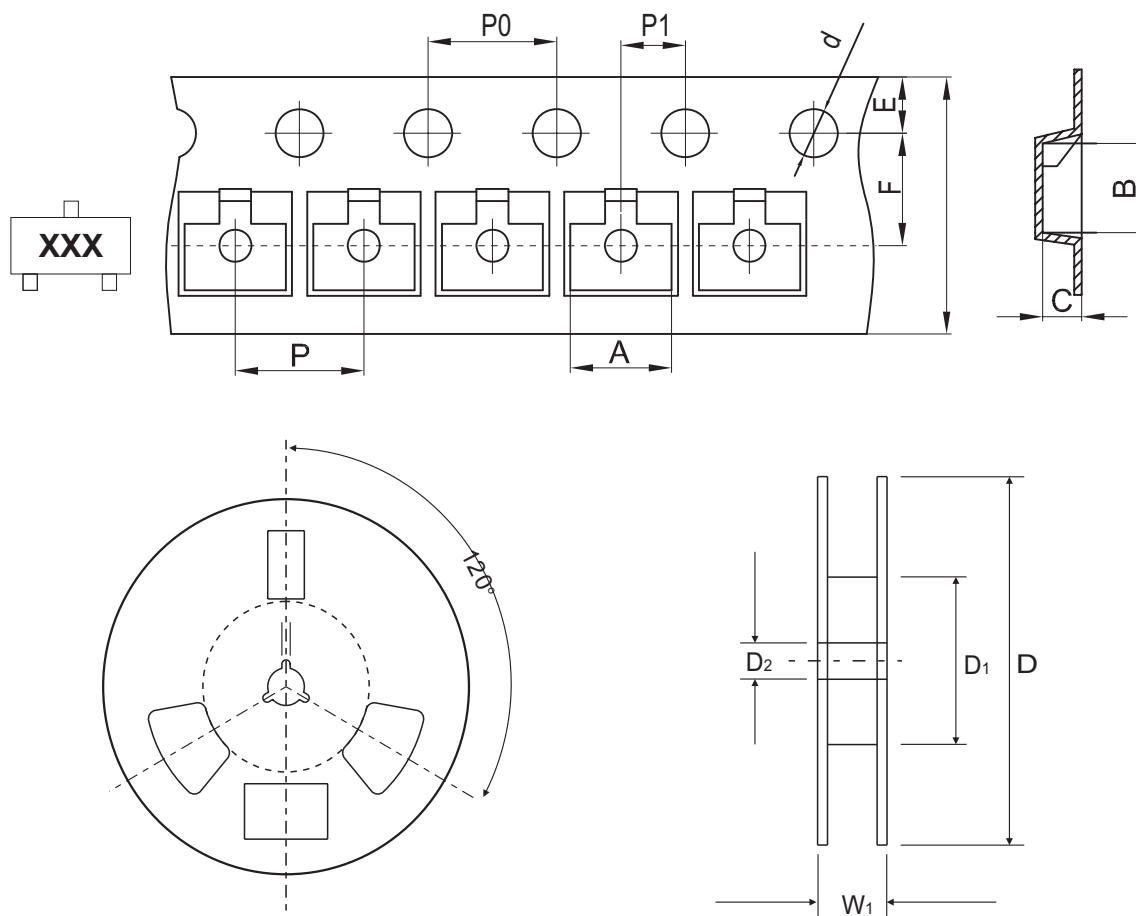


Fig.4 - Power Derating Curve



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## Reel Taping Specification



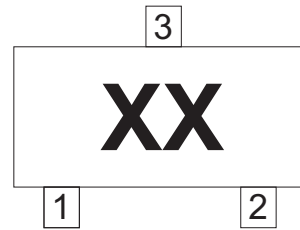
| SOT-23 | SYMBOL | A             | B             | C             | d             | D             | D1            | D2            |
|--------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|        | (mm)   | 3.15 ± 0.10   | 2.77 ± 0.10   | 1.22 ± 0.10   | 1.50 ± 0.10   | 178 ± 2.00    | 54.40 ± 1.00  | 13.00 ± 1.00  |
|        | (inch) | 0.124 ± 0.004 | 0.109 ± 0.004 | 0.048 ± 0.004 | 0.059 ± 0.004 | 7.008 ± 0.079 | 2.142 ± 0.039 | 0.512 ± 0.039 |

| SOT-23 | 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 ± 1.0   |
|        | (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.

## Marking Code

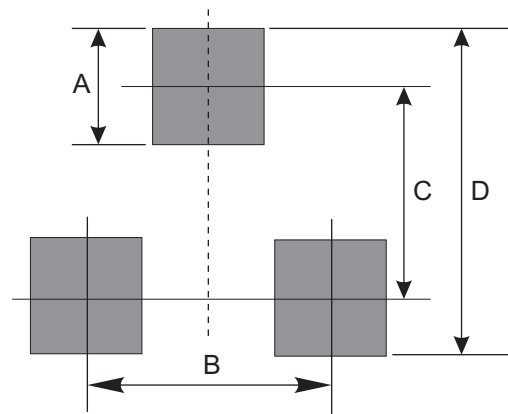
| Part Number | Marking Code |
|-------------|--------------|
| ACDST-99-G  | A7           |
| ACDST-70-G  | A4           |



**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                   |