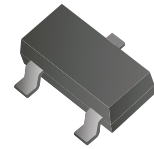


# ACDST-16-G

**Reverse Voltage: 75 Volts**
**Forward Current: 150 mA**
**RoHS Device**


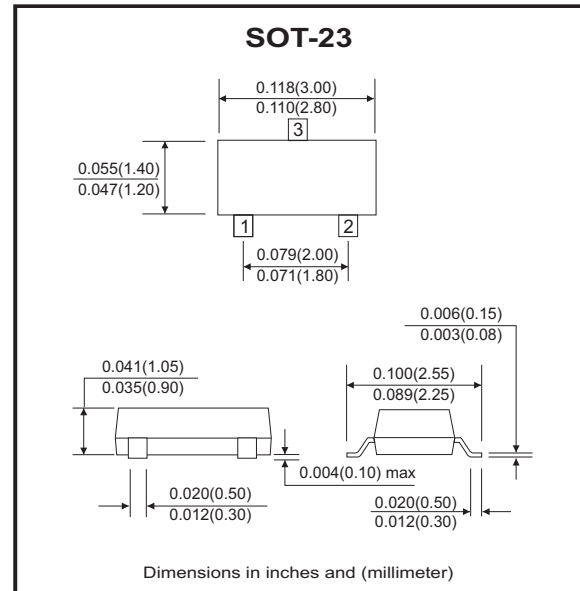
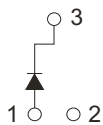
## Features

- Design for mounting on small surface.
- 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.
- Weight: 0.0078 grams(approx.).

## Circuit diagram



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

| Parameter                                                    | Symbol          | Value       | Unit                 |
|--------------------------------------------------------------|-----------------|-------------|----------------------|
| Non-Repetitive peak reverse voltage                          | $V_{RM}$        | 100         | V                    |
| Repetitive peak reverse voltage                              | $V_{RRM}$       | 75          | V                    |
| Working peak reverse voltage                                 | $V_{RWM}$       |             |                      |
| DC blocking voltage                                          | $V_R$           |             |                      |
| RMS reverse voltage                                          | $V_{R(RMS)}$    | 53          | V                    |
| Forward continuous current                                   | $I_{FM}$        | 300         | mA                   |
| Average rectified output current                             | $I_O$           | 150         | mA                   |
| Non-repetitive peak forward surge current @ $t=8.3\text{ms}$ | $I_{FSM}$       | 2.0         | A                    |
| Power dissipation                                            | $P_D$           | 225         | mW                   |
| Thermal resistance junction to ambient                       | $R_{\theta JA}$ | 556         | $^{\circ}\text{C/W}$ |
| Junction temperature range                                   | $T_J$           | 150         | $^{\circ}\text{C}$   |
| Storage temperature range                                    | $T_{STG}$       | -55 to +150 | $^{\circ}\text{C}$   |

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

| Parameter                       | Conditions                                                                               | Symbol     | Min. | Max.                        | Unit          |
|---------------------------------|------------------------------------------------------------------------------------------|------------|------|-----------------------------|---------------|
| Reverse breakdown voltage       | $I_R = 100\mu\text{A}$                                                                   | $V_{(BR)}$ | 75   |                             | V             |
| Reverse voltage leakage current | $V_R = 75\text{V}$                                                                       | $I_R$      |      | 1                           | $\mu\text{A}$ |
| Forward voltage                 | $I_F = 1\text{mA}$<br>$I_F = 10\text{mA}$<br>$I_F = 50\text{mA}$<br>$I_F = 150\text{mA}$ | $V_F$      |      | 0.715<br>0.855<br>1<br>1.25 | V             |
| Diode Capacitance               | $V_R=0\text{V}$ , $f=1\text{MHz}$                                                        | $C_D$      |      | 2                           | pF            |
| Reverse recovery time           | $I_F=I_R=10\text{mA}$ , $I_{rr}=0.1I_R$ , $R_L=100\Omega$                                | $T_{rr}$   |      | 6                           | nS            |

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

REV:A

## RATING AND CHARACTERISTIC CURVES (ACDST-16-G)

Fig.1 - Forward Characteristics

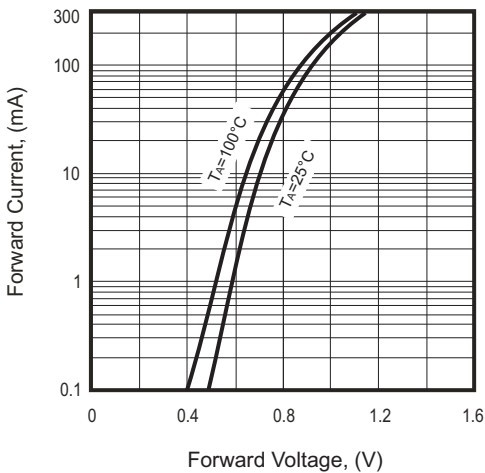


Fig.2 - Reverse Characteristics

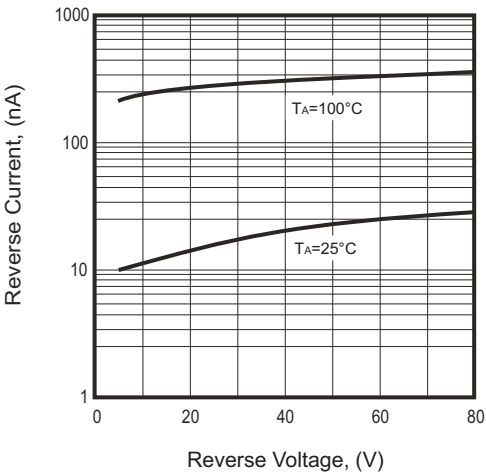


Fig.3 - Capacitance Between

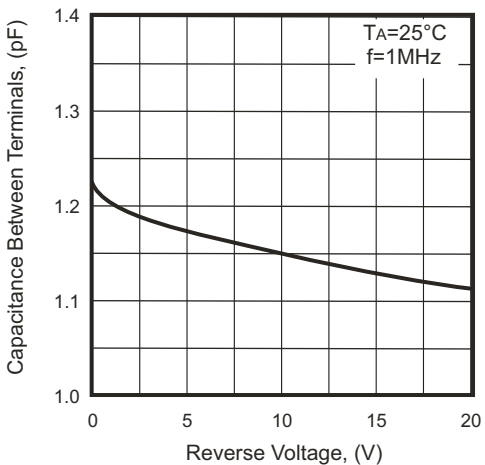
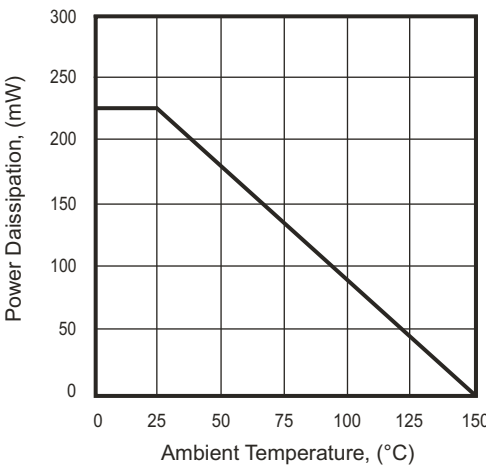
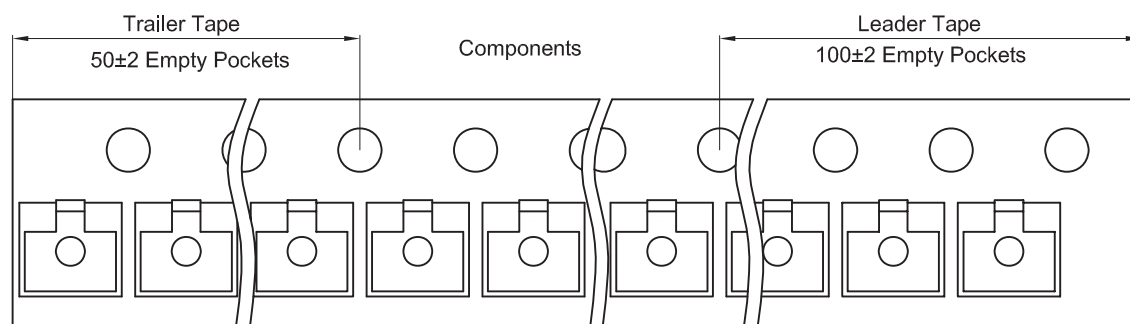
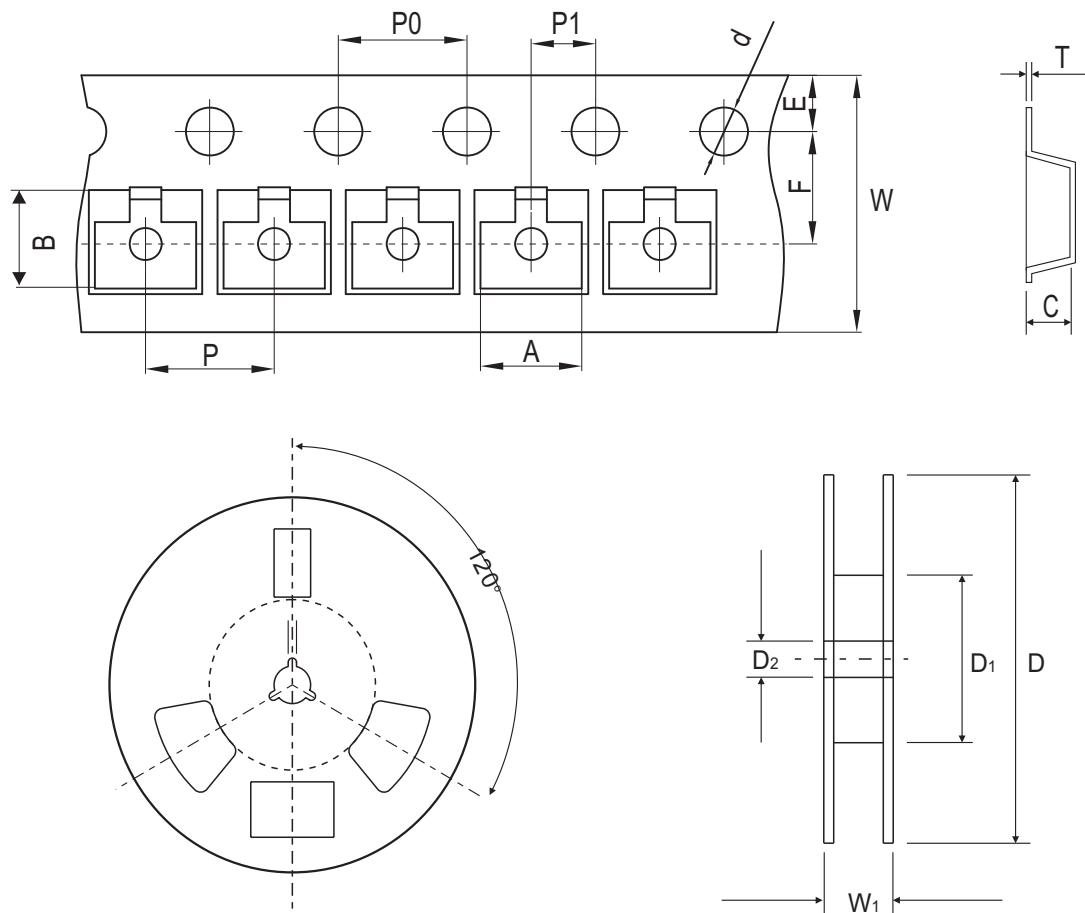


Fig.4 - Power Derating Curve



## Reel Taping Specification



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

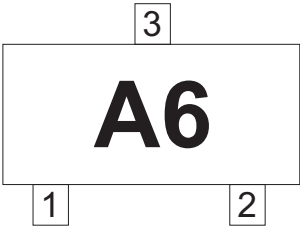
| SOT-23 | SYMBOL | E                 | F                 | P                 | P0                | P1                | W                         | W1                |
|--------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|---------------------------|-------------------|
|        | (mm)   | $1.75 \pm 0.10$   | $3.50 \pm 0.10$   | $4.00 \pm 0.10$   | $4.00 \pm 0.10$   | $2.00 \pm 0.10$   | $8.00 + 0.30 / - 0.10$    | $12.30 \pm 1.00$  |
|        | (inch) | $0.069 \pm 0.004$ | $0.138 \pm 0.004$ | $0.157 \pm 0.004$ | $0.157 \pm 0.004$ | $0.079 \pm 0.004$ | $0.315 + 0.012 / - 0.004$ | $0.484 \pm 0.039$ |

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REV:A

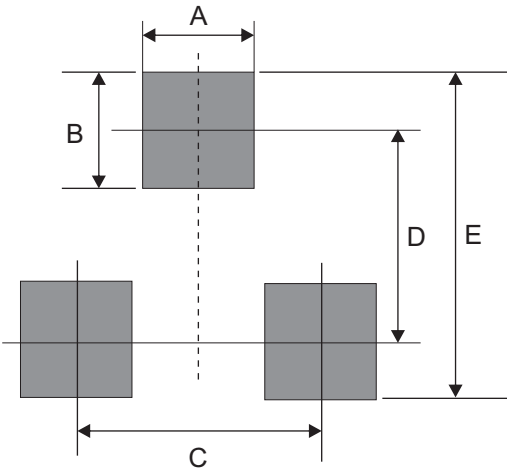
## Marking Code

| Part Number | Marking Code |
|-------------|--------------|
| ACDST-16-G  | A6           |



## Suggested PAD Layout

| SIZE | SOT-23 |        |
|------|--------|--------|
|      | (mm)   | (inch) |
| A    | 0.60   | 0.024  |
| B    | 0.80   | 0.031  |
| C    | 1.90   | 0.075  |
| D    | 2.02   | 0.080  |
| E    | 2.82   | 0.111  |



**Note:**

1. General tolerance:  $\pm 0.05\text{mm}$

## Standard Packaging

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