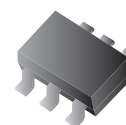


# ACDST6-4448TI-G

## RoHS Device



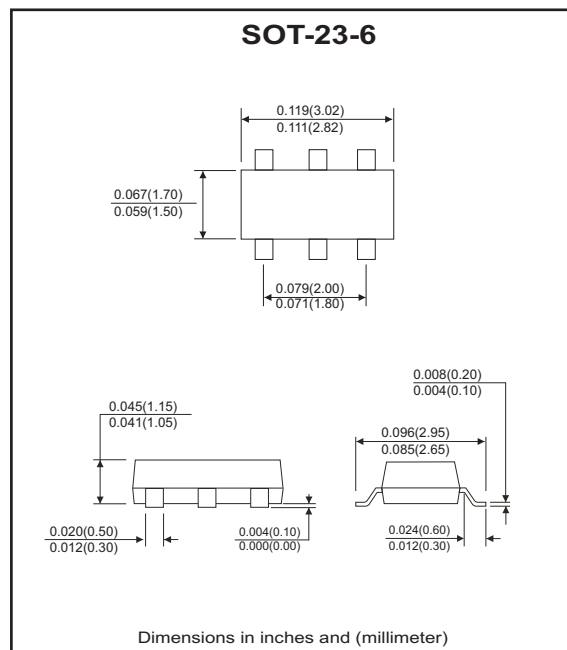
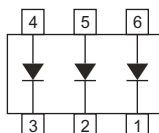
### Features

- Fast switching speed.
- Ultra-small surface mount package.
- For general purpose switching applications.
- High conductance power dissipation.
- Comply with AEC-Q101.

### Mechanical data

- Case: SOT-23-6, molded plastic.
- Terminals: Solder plated, solderable per MIL-STD-750, method 2026.
- Mounting position: Any.
- Weight: 0.015 gram (approx.)

### Circuit diagram



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

| Parameter                                                              | Symbol         | Value       | Unit |
|------------------------------------------------------------------------|----------------|-------------|------|
| Non-repetitive peak reverse voltage                                    | $V_{RM}$       | 100         | V    |
| Peak repetitive 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    |
| Average rectified output current                                       | $I_O$          | 100         | mA   |
| Non-repetitive peak forward surge current @ $t < 1\mu s$<br>@ $t < 1s$ | $I_{FSM}$      | 4<br>2      | A    |
| Power dissipation                                                      | $P_d$          | 200         | mW   |
| Operating and storage temperature range                                | $T_J, T_{STG}$ | -55 to +150 | °C   |

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

| Parameter                  | Conditions                                                                      | Symbol   | Min  | Typ | Max                   | Unit                                |
|----------------------------|---------------------------------------------------------------------------------|----------|------|-----|-----------------------|-------------------------------------|
| Reverse breakdown voltage  | $I_R = 10\mu A$                                                                 | $V_{BR}$ | 75   |     |                       | V                                   |
| Forward voltage            | $I_F = 1mA$<br>$I_F = 10mA$<br>$I_F = 100mA$                                    | $V_F$    | 0.62 |     | 0.720<br>0.855<br>1.0 | V                                   |
| Reverse current            | $V_R = 75V, T_J = 150^\circ C$<br>$V_R = 25V, T_J = 150^\circ C$<br>$V_R = 20V$ | $I_R$    |      |     | 2.5<br>50<br>30<br>25 | $\mu A$<br>$\mu A$<br>$\mu A$<br>nA |
| Diode junction Capacitance | $V_R = 0, f = 1.0MHz$                                                           | $C_J$    |      |     | 4.0                   | pF                                  |
| Reverse recovery time      | $I_F = I_R = 10mA$<br>$I_{rr} = 0.1 \times I_R, R_L = 100\Omega$                | $T_{rr}$ |      |     | 4.0                   | nS                                  |

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

REV:A

## RATING AND CHARACTERISTIC CURVES (ACDST6-4448TI-G)

Fig.1 - Forward characteristics

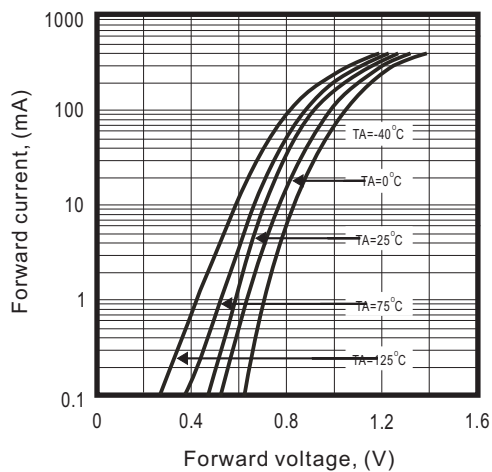


Fig.2 - Reverse characteristics

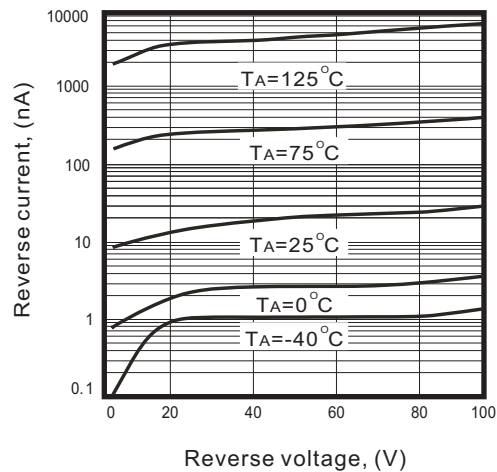


Fig.3 - Capacitance between terminals characteristics

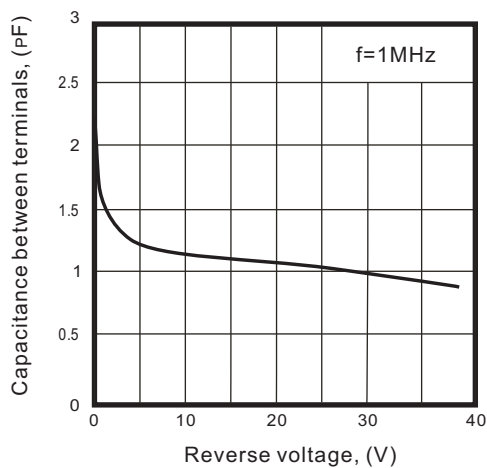


Fig.4 - Power derating curve

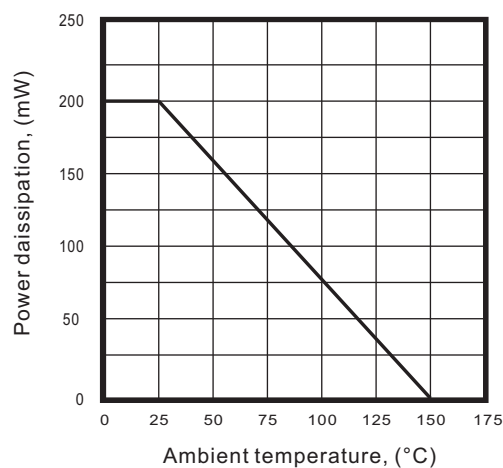
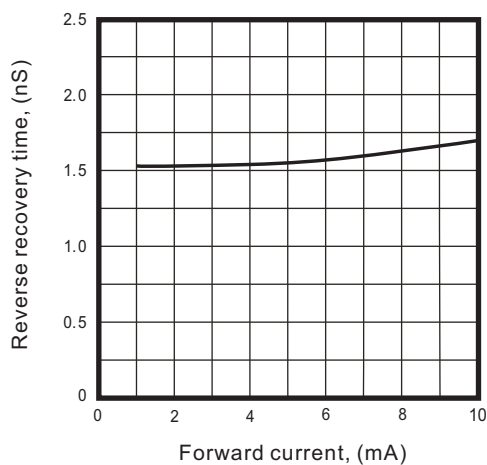


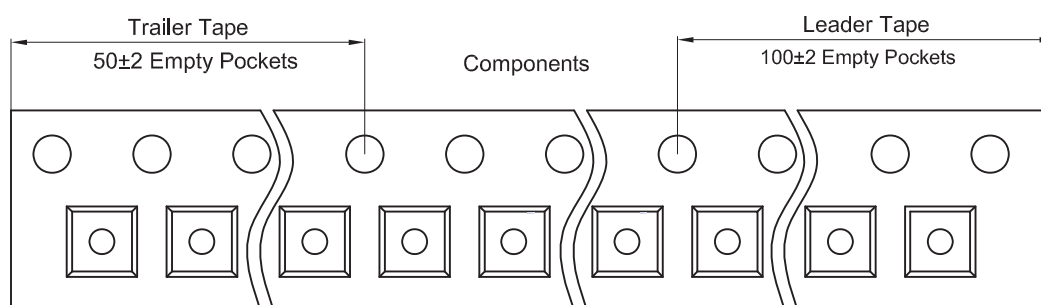
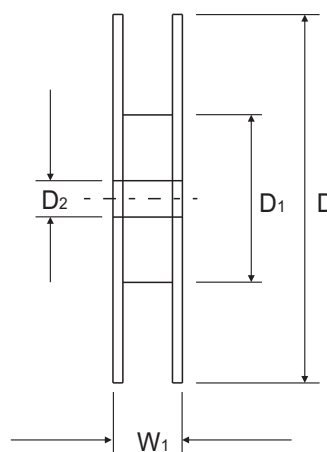
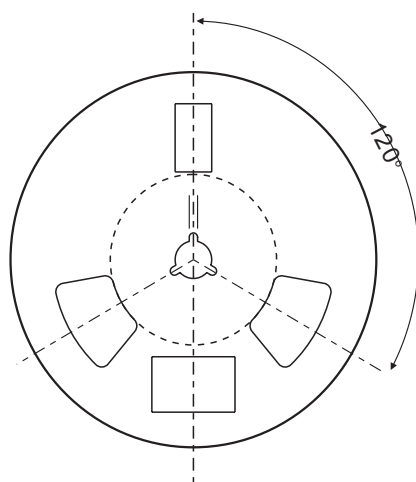
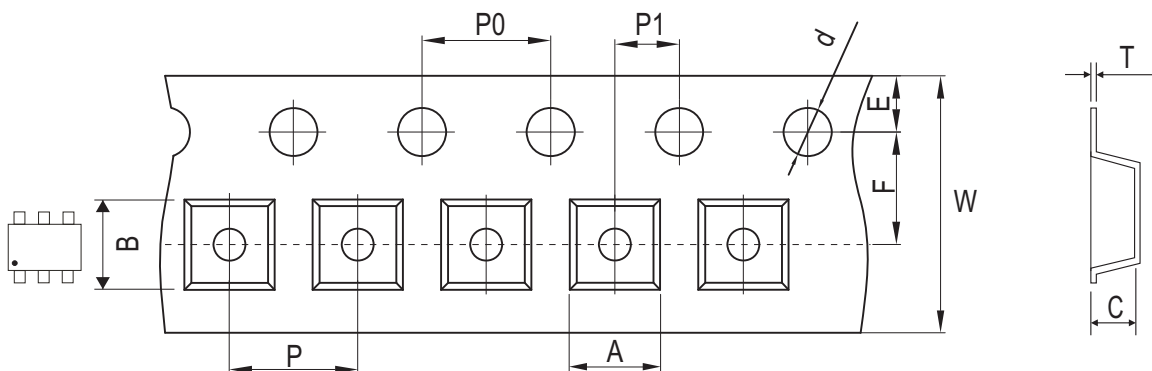
Fig.5 - Reverse recovery time vs. forward current



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## Reel Taping Specification



| SOT-23-6 | SYMBOL | A                 | B                 | C                 | d                 | D                        | D1                | D2                |
|----------|--------|-------------------|-------------------|-------------------|-------------------|--------------------------|-------------------|-------------------|
|          | (mm)   | $3.17 \pm 0.10$   | $3.23 \pm 0.10$   | $1.37 \pm 0.10$   | $1.50 \pm 0.05$   | $180.0 + 0.00 / - 0.30$  | $60.00 \pm 0.50$  | $13.00 \pm 0.20$  |
|          | (inch) | $0.125 \pm 0.004$ | $0.127 \pm 0.004$ | $0.054 \pm 0.004$ | $0.059 \pm 0.002$ | $7.087 + 0.00 / - 0.012$ | $2.362 \pm 0.020$ | $0.512 \pm 0.008$ |

| SOT-23-6 | SYMBOL | E                 | F                 | P                 | P0                | P1                | W                         | W1                |
|----------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|---------------------------|-------------------|
|          | (mm)   | $1.75 \pm 0.10$   | $3.50 \pm 0.05$   | $4.00 \pm 0.10$   | $4.00 \pm 0.10$   | $2.00 \pm 0.05$   | $8.00 + 0.30 / - 0.10$    | $12.30 \pm 0.20$  |
|          | (inch) | $0.069 \pm 0.004$ | $0.138 \pm 0.002$ | $0.157 \pm 0.004$ | $0.157 \pm 0.004$ | $0.079 \pm 0.002$ | $0.315 + 0.012 / - 0.004$ | $0.484 \pm 0.008$ |

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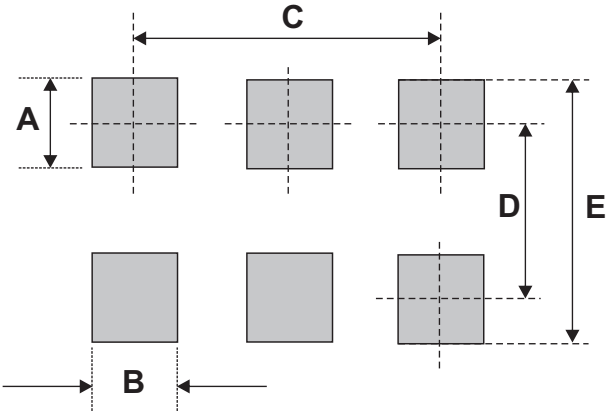
## Marking Code

| Part Number     | Marking Code |
|-----------------|--------------|
| ACDST6-4448TI-G | KAA          |



## Suggested PAD Layout

| SIZE | SOT-23-6 |        |
|------|----------|--------|
|      | (mm)     | (inch) |
| A    | 1.10     | 0.043  |
| B    | 0.60     | 0.024  |
| C    | 0.95     | 0.037  |
| D    | 2.50     | 0.098  |
| E    | 3.60     | 0.142  |



## Standard Packaging

| Case Type | REEL PACK       |                     |
|-----------|-----------------|---------------------|
|           | REEL<br>( pcs ) | Reel Size<br>(inch) |
| SOT-23-6  | 3,000           | 7                   |