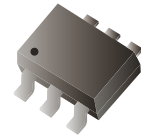


## CDSV6-56-G

Forward Current: 0.15A

Reverse Voltage: 75V

RoHS Device



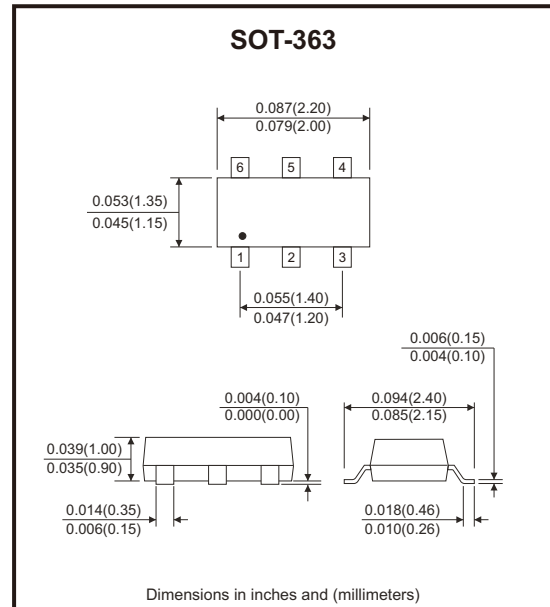
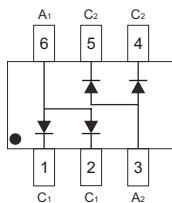
### Features

- Fast switching speed.
- Ultra small surface mount package.
- For general purpose switching applications.
- High conductance.

### Mechanical data

- Case: SOT-363, molded plastic.
- Terminals: Solderable per MIL-STD-750, method 2026.

### Circuit Diagram



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

| Parameter                                                              | Symbol          | Limits     | Unit |
|------------------------------------------------------------------------|-----------------|------------|------|
| Peak repetitive peak reverse voltage                                   | $V_{RRM}$       | 75         | V    |
| Working peak reverse voltage                                           | $V_{RWM}$       |            |      |
| DC blocking voltage                                                    | $V_R$           |            |      |
| Forward continuous current                                             | $I_{FM}$        | 300        | mA   |
| Average rectified output current                                       | $I_O$           | 150        | mA   |
| Non-repetitive peak forward surge current @ $t=1.0\mu S$<br>@ $t=1.0S$ | $I_{FSM}$       | 2<br>1     | A    |
| Power dissipation                                                      | $P_D$           | 200        | mW   |
| Thermal resistance from junction to ambient                            | $R_{\theta JA}$ | 625        | °C/W |
| Operation junction temperature                                         | $T_J$           | 150        | °C   |
| Storage temperature range                                              | $T_{STG}$       | -55 ~ +150 | °C   |

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

| Parameter                     | Conditions                                           | Symbol     | Min | Typ | Max   | Unit    |
|-------------------------------|------------------------------------------------------|------------|-----|-----|-------|---------|
| Reverse breakdown voltage     | $I_R=2.5\mu A$                                       | $V_{(BR)}$ | 75  |     |       | V       |
| Forward voltage               | $I_F=1mA$                                            | $V_{F1}$   |     |     | 0.715 | V       |
|                               | $I_F=10mA$                                           | $V_{F2}$   |     |     | 0.855 |         |
|                               | $I_F=50mA$                                           | $V_{F3}$   |     |     | 1.0   |         |
|                               | $I_F=150mA$                                          | $V_{F4}$   |     |     | 1.25  |         |
| Reverse leakage current       | $V_R=20V$                                            | $I_{R1}$   |     |     | 25    | nA      |
|                               | $V_R=75V$                                            | $I_{R2}$   |     |     | 2.5   | $\mu A$ |
| Capacitance between terminals | $V_R=0V, f=1MHz$                                     | $C_T$      |     |     | 2     | pF      |
| Reverse recovery time         | $I_F=I_R=10mA, I_{rr}=0.1 \times I_R, R_L=100\Omega$ | $t_{rr}$   |     |     | 4     | ns      |

## Rating and Characteristic Curves (CDSV6-56-G)

Fig.1 - Forward Characteristics

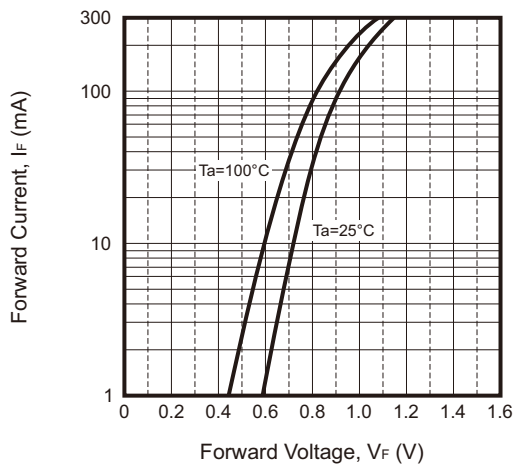


Fig.2 - Reverse Characteristics

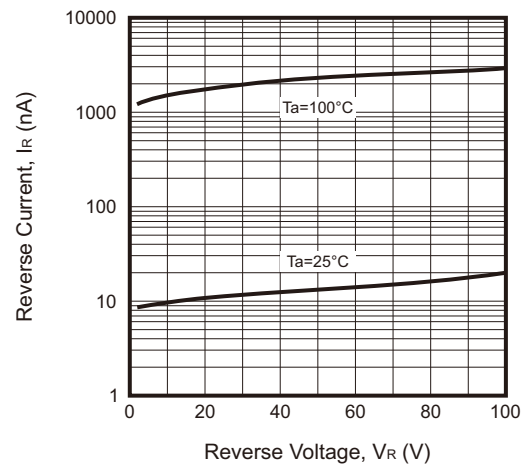


Fig.3 - Capacitance Characteristics

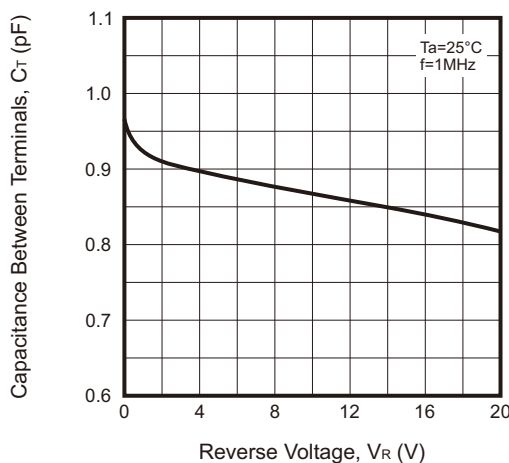
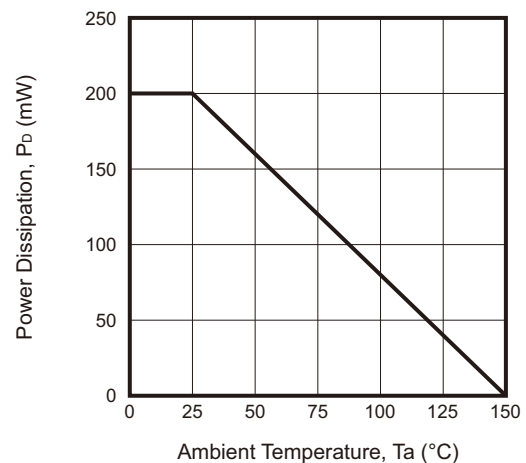
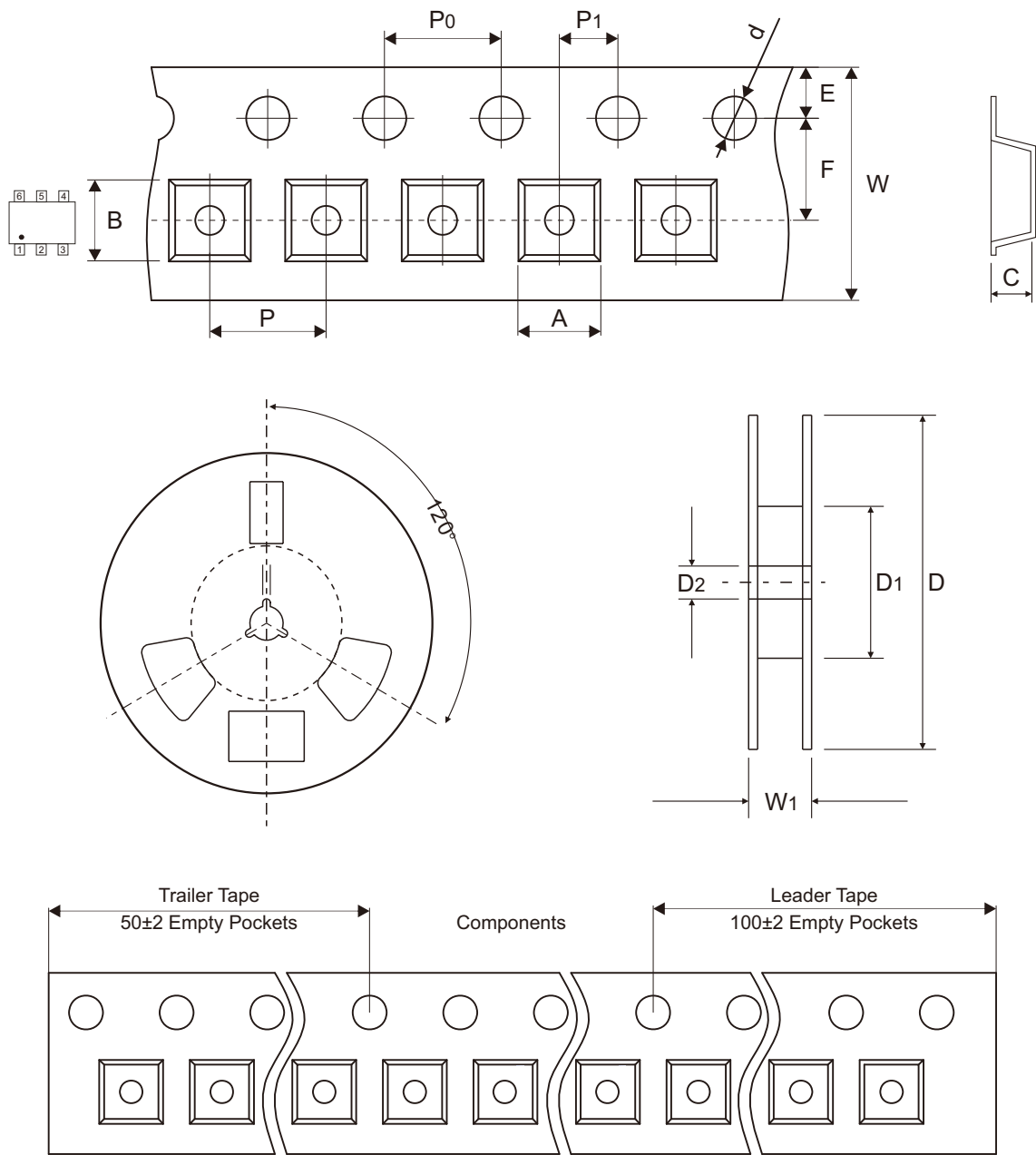


Fig.4 - Power Derating Curve



Reel Taping Specification

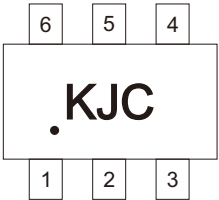


| SOT-363 | SYMBOL | A             | B             | C             | d                        | D             | D1            | D2            |
|---------|--------|---------------|---------------|---------------|--------------------------|---------------|---------------|---------------|
|         | (mm)   | 2.25 ± 0.10   | 2.55 ± 0.10   | 1.20 ± 0.10   | 1.50 + 0.10<br>- 0.00    | 178.00 ± 1.00 | 54.40 ± 0.40  | 13.00 ± 0.20  |
|         | (inch) | 0.089 ± 0.004 | 0.100 ± 0.004 | 0.047 ± 0.004 | 0.059 + 0.004<br>- 0.000 | 7.008 ± 0.039 | 2.142 ± 0.016 | 0.512 ± 0.008 |

| SOT-363 | 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<br>- 0.10    | 12.30 ± 1.00  |
|         | (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<br>- 0.004 | 0.484 ± 0.039 |

Marking Code

| Part Number | Marking Code |
|-------------|--------------|
| CDSV6-56-G  | KJC          |

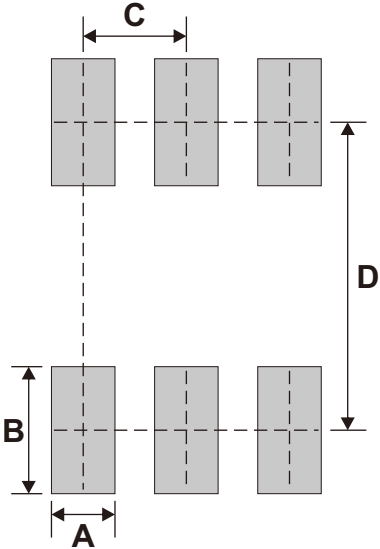


Solid dot “ • ” = Pin 1 indicate

Suggested PAD Layout

| SIZE | SOT-363 |        |
|------|---------|--------|
|      | (mm)    | (inch) |
| A    | 0.40    | 0.016  |
| B    | 0.80    | 0.031  |
| C    | 0.65    | 0.026  |
| D    | 1.94    | 0.076  |

Note: 1.General tolerance: ±0.05mm.  
2.The pad layout is for reference purposes only.



Standard Packaging

| Case Type | REEL PACK  |                  |
|-----------|------------|------------------|
|           | REEL (pcs) | Reel Size (inch) |
| SOT-363   | 3,000      | 7                |