

Main Product Characteristics

| | |
|-------------|-------|
| $I_{F(AV)}$ | 2x5A |
| V_{RRM} | 100V |
| T_J | 150°C |
| $V_{(Typ)}$ | 0.56V |

Features

- Low forward voltage drop.
- Excellent high temperature stability.
- Fast switching capability.
- Suffix "G" indicates Halogen-free part, ex. CD10100CTG.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

Mechanical data

- Epoxy : UL94-V0 rated flame retardant.
- Case : Molded plastic, DPAK / TO-252.
- Lead : Solder plated, solderable per MIL-STD-750, Method 2026.
- Polarity: Indicated by cathode band.
- Mounting Position : Any.
- Weight : Approximated 0.34 gram.

Maximum ratings and electrical characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

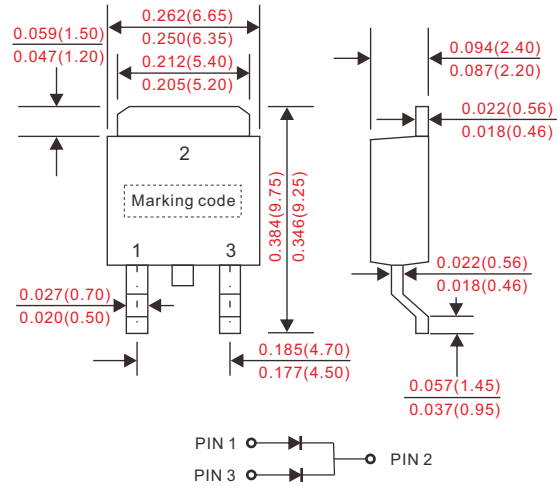
| Parameter | Conditions | Symbol | CD10100CT | UNIT |
|-----------------------------------|--|----------------|------------|------|
| Marking code | | | CD10100CT | |
| Peak repetitive reverse voltage | | V_{RRM} | | |
| Working peak reverse voltage | | V_{RWM} | 100 | V |
| DC blocking voltage | | V_{RM} | | |
| RMS reverse voltage | | $V_{R(RMS)}$ | 70 | V |
| Forward rectified current | | I_O | 10 | A |
| Forward surge current | 8.3ms single half sine-wave superimposed on rate load (JEDEC method) | I_{FSM} | 150 | A |
| Thermal resistance(1) | Junction to case | R_{BJC} | 6 | °C/W |
| Operating and Storage temperature | | T_J, T_{STG} | -55 ~ +150 | °C |

| Parameter | Conditions | Symbol | MIN. | TYP. | MAX. | UNIT |
|----------------------|------------------------------------|--------|------|------|------|------|
| Forward voltage drop | $I_F = 5A, T_J = 25^\circ C$ | V_F | | | 700 | mV |
| | $I_F = 5A, T_J = 125^\circ C$ | | | 560 | 650 | |
| Reverse current | $V_R = V_{RRM}, T_J = 25^\circ C$ | I_R | | | 0.1 | mA |
| | $V_R = V_{RRM}, T_J = 125^\circ C$ | | | | 10 | |

Note : 1. Thermal resistance from junction to case per leg, with heatsink size (1.35" x 0.95" x 0.18") Al-plate.
2. Device mounted on FR-4 substrate PC board, 1oz copper with minimum recommended pad layout.
3. Device mounted on Polyimide substate, 1*MRP, 2oz, copper, PC boards.

Outline

DPAK(TO-252)



Dimensions in inches and (millimeters)

■ Rating and characteristic curves

Fig. 1 - Instantaneous Forward Characteristics

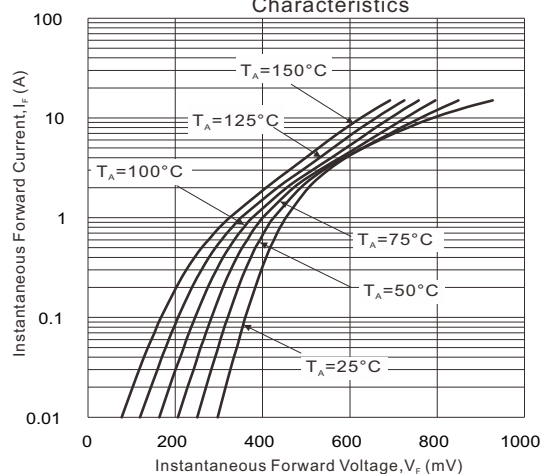


Fig. 2 - Reverse Characteristics

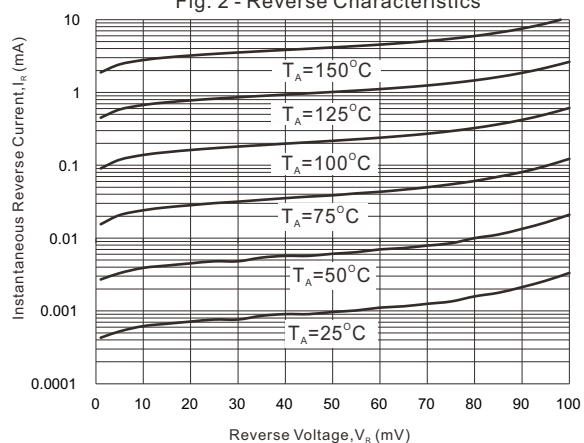


Fig. 3 - Forward Power Dissipation

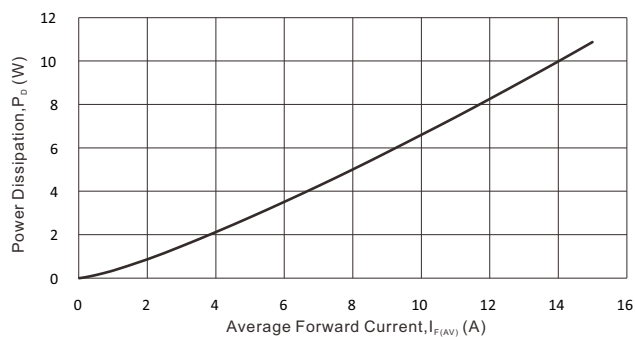


Fig. 4 - Forward Current Derating Curve

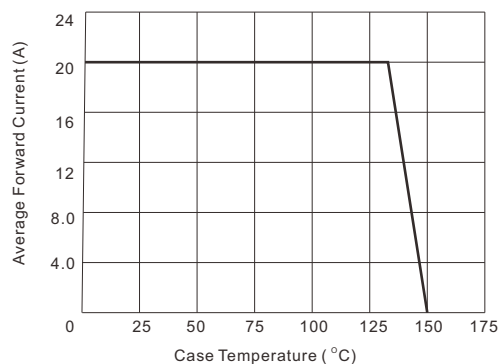
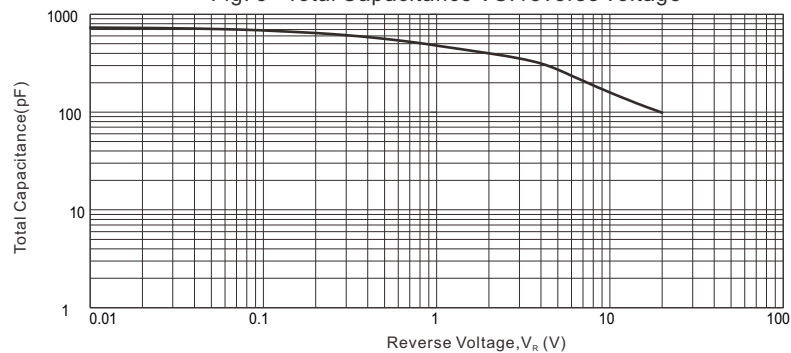
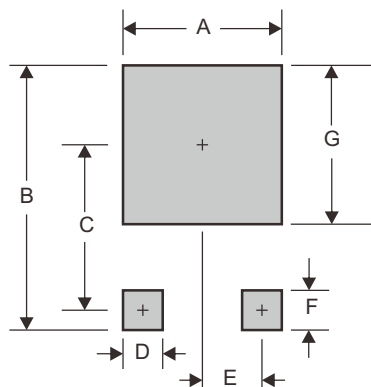


Fig. 5 - Total Capacitance VS. reverse voltage



■ DPAK(TO-252) foot print



| A | B | C | D | E | F | G |
|--------------|---------------|--------------|--------------|--------------|--------------|--------------|
| 0.276 (7.00) | 0.457 (11.60) | 0.272 (6.90) | 0.059 (1.50) | 0.091 (2.30) | 0.098 (2.50) | 0.276 (7.00) |

Dimensions in inches and (millimeters)

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