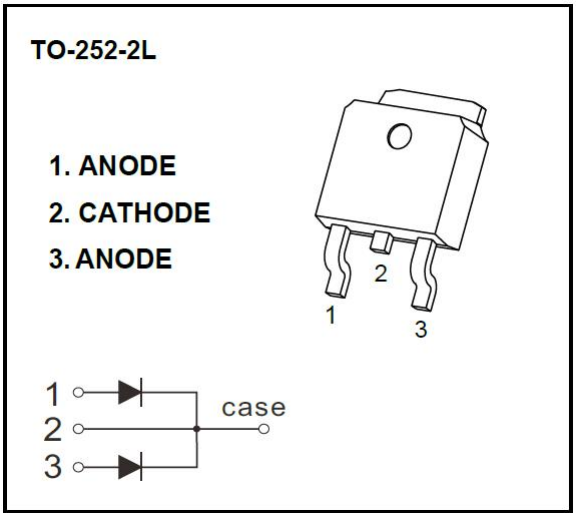
JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD.

# AD-SBDD10100CT Plastic-Encapsulated Diode

**AD-SBDD10100CT Schottky barrier diode**



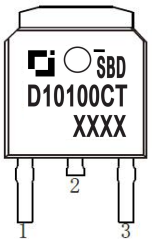

## MAIN CHARACTERISTICS

| | |
|---|---|
| $I_O$ | 10A (2X5A) |
| $V_{RRM}$ | 100V |
| $T_j$ | 150°C |
| $V_{F(typ)}$ | 0.63V (@ $T_j$ = 125°C) |

## FEATURES

- Low power loss, high efficiency
- High current capability and low forward voltage drop
- Guard ring die construction for transient protection
- AEC-Q101 qualified

## MARKING




$\bar{S}$BDD10100CT = Device code
XXXX = Date code

## MAXIMUM RATINGS ($T_j$ = 25°C unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Peak repetitive reverse voltage | $V_{RRM}$ | 100 | V |
| Working peak reverse voltage | $V_{RWM}$ | | |
| DC blocking voltage | $V_R$ | | |
| RMS reverse voltage | $V_{R(RMS)}$ | 70 | V |
| Average rectified output current | $I_O$ | 10 | A |
| Non-repetitive peak forward surge current @ t = 8.3ms | $I_{FSM}$ | 120 | A |
| Thermal resistance from junction to case | $R_{\theta JC}$ | 5.0 | °C/W |
| Thermal resistance from junction to ambient | $R_{\theta JA}$ | 100 | °C/W |
| Operating junction temperature range | $T_j$ | 150 | °C |
| Storage temperature range | $T_{stg}$ | -55 ~ +150 | °C |

## ELECTRICAL CHARACTERISTICS ($T_j$ = 25°C unless otherwise specified)

| Parameter | Symbol | Test condition | | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|---|
| Reverse breakdown voltage | $V_{(BR)}$ | $I_R$ = 0.1mA | | 100 | - | - | V |
| Reverse voltage leakage current | $I_R$ | $V_R$ = 100V | $T_j$ = 25°C | - | 2.0 | 100 | μA |
| | | | $T_j$ = 125°C | - | 2.0 | - | mA |
| Forward voltage | $V_{F1}$ | $I_F$ = 3A | $T_j$ = 25°C | - | 0.71 | - | V |
| | | | $T_j$ = 125°C | - | 0.57 | - | |
| | $V_{F2}$ | $I_F$ = 5A | $T_j$ = 25°C | - | 0.77 | 0.85 | |
| | | | $T_j$ = 125°C | - | 0.63 | - | |

# TYPICAL CHARACTERISTICS

FIG.1: FORWARD CURRENT DERATING CURVE

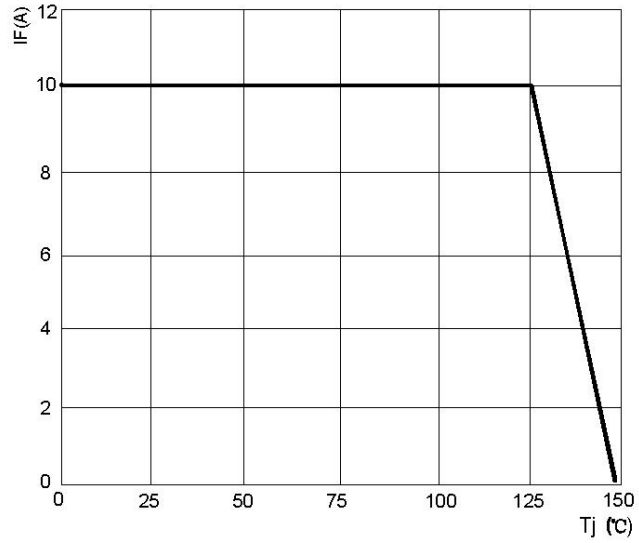



FIG.2: TYPICAL FORWARD CHARACTERISTICS

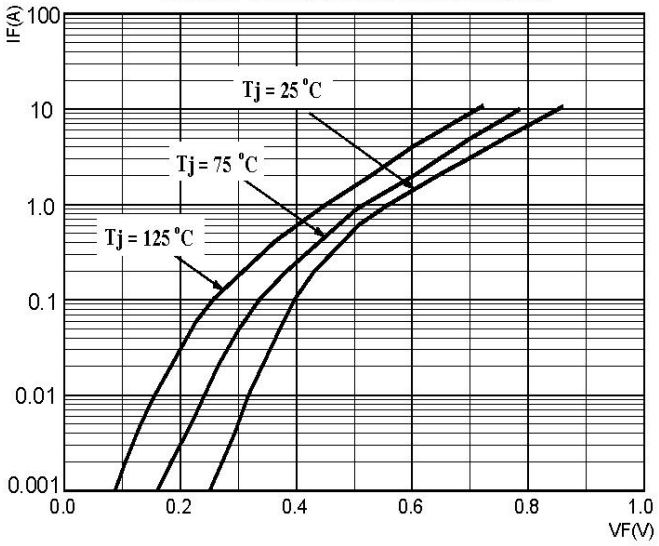



FIG.3: TOTAL CAPACITANCE DERATING CURVE

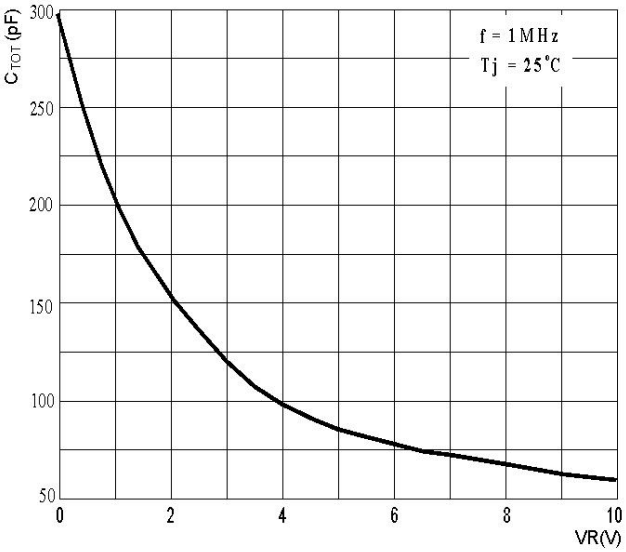
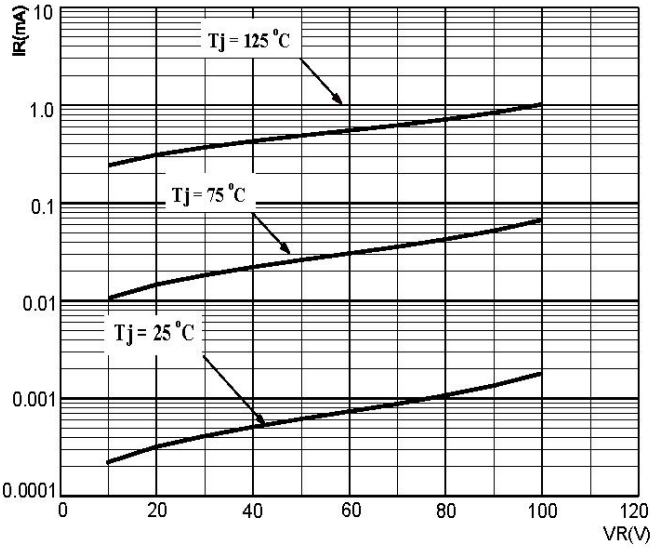
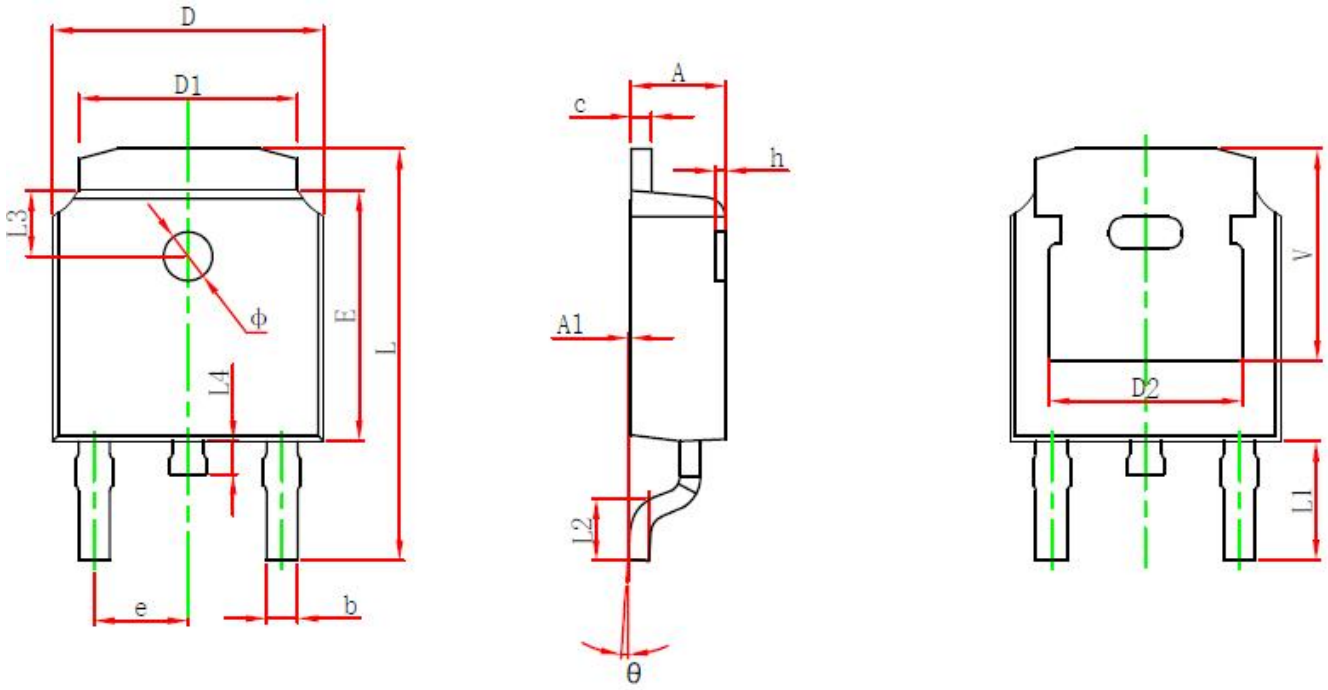



FIG.4: TYPICAL REVERSE CHARACTERISTICS

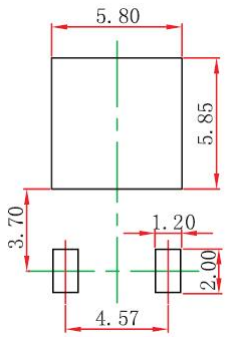


## TO-252-2L PACKAGE OUTLINE DIMENSIONS




| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|---|---|---|---|---|
| | Min. | Max. | Min. | Max. |
| A | 2.200 | 2.400 | 0.087 | 0.094 |
| A1 | 0.000 | 0.127 | 0.000 | 0.005 |
| b | 0.635 | 0.770 | 0.025 | 0.030 |
| c | 0.460 | 0.580 | 0.018 | 0.023 |
| D | 6.500 | 6.700 | 0.256 | 0.264 |
| D1 | 5.100 | 5.460 | 0.201 | 0.215 |
| D2 | 4.830 REF. | | 0.190 REF. | |
| E | 6.000 | 6.200 | 0.236 | 0.244 |
| e | 2.186 | 2.386 | 0.086 | 0.094 |
| L | 9.712 | 10.312 | 0.382 | 0.406 |
| L1 | 2.900 REF. | | 0.114 REF. | |
| L2 | 1.400 | 1.700 | 0.055 | 0.067 |
| L3 | 1.600 REF. | | 0.063 REF. | |
| L4 | 0.600 | 1.000 | 0.024 | 0.039 |
| Φ | 1.100 | 1.300 | 0.043 | 0.051 |
| θ | 0° | 8° | 0° | 8° |
| h | 0.000 | 0.300 | 0.000 | 0.012 |
| V | 5.250 REF. | | 0.207 REF. | |

## TO-252-2L SUGGESTED PAD LAYOUT

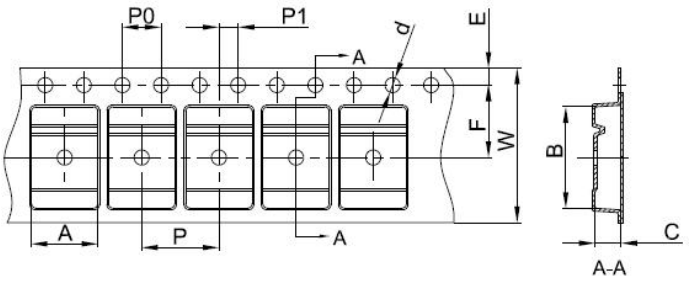



Note:

1. Controlling dimension in millimeters.
2. General tolerance: ±0.05mm.
3. The pad layout is for reference purpose only.

# TO-252-2L TAPE AND REEL

## TO-252 Embossed Carrier Tape

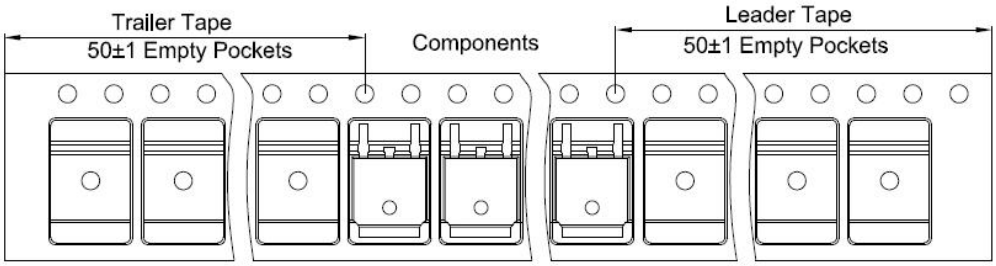



Packaging Description:

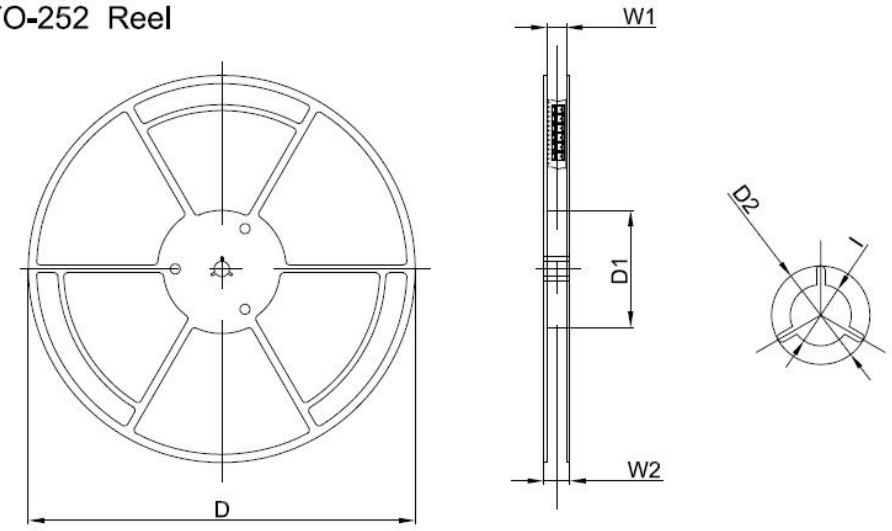
TO-252 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 25,00 units per 13" or 33.0 cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

| Dimensions are in millimeter | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Pkg type | A | B | C | d | E | F | P0 | P | P1 | W |
| TO-252 | 6,90 | 10,50 | 2,70 | Ø1,55 | 1,75 | 7,50 | 4,00 | 8,00 | 2,00 | 16,00 |

## TO-252 Tape Leader and Trailer




## TO-252 Reel




| Dimensions are in millimeter | | | | | | |
|---|---|---|---|---|---|---|
| Reel Option | D | D1 | D2 | W1 | W2 | I |
| 13"Dia | 330.00 | 100.00 | Ø21.00 | 16.40 | 21.00 | Ø13.00 |

| REEL | Reel Size | Box | Box Size(mm) | Carton | Carton Size(mm) | G.W.(kg) |
|---|---|---|---|---|---|---|
| 2,500 pcs | 13Inch | 2,500 pcs | 340×336×29 | 25,000 pcs | 353×346×365 | |

## PUBLISHED BY

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