SANGDEST
MICROELECTRONICS

**MBR3035 /3045CT**
**MBRB3035 /3045CT**
**MBR3035 /3045CT-1**

**Technical Data** *Green Products*
**Data Sheet N0013, Rev. -**

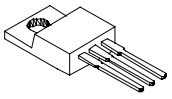
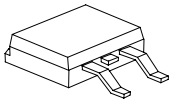
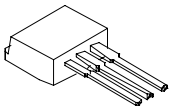
# MBR30…CT /MBRB30…CT /MBR30…CT-1
# SCHOTTKY RECTIFIER

## Applications:

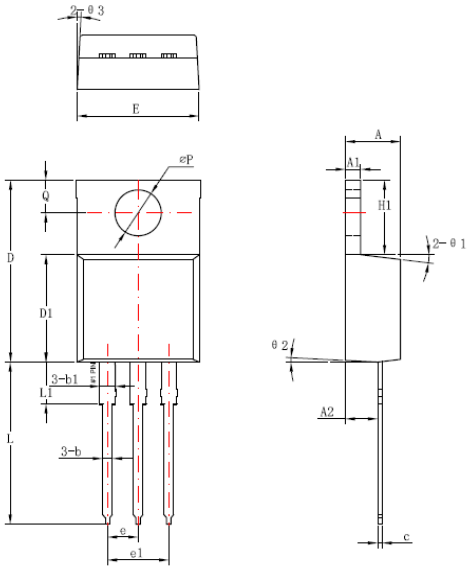
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

## Features:

- 150 °C $T_J$ operation
- Center tap configuration
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb − Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

| Case styles | | |
|---|---|---|
| **MBR30…CT** | **MBRB30…CT** | **MBR30…CT-1** |
|  |  |  |
| **TO-220AB** | **$D^2PAK$** | **TO-262** |

**Mechanical Dimensions: In Inches / mm**



| Symbol | Dimensions in millimeters | | |
|---|---|---|---|
| | Min | Typical | Max |
| A | 4.42 | 4.57 | 4.72 |
| A1 | 1.17 | 1.27 | 1.37 |
| A2 | 2.59 | 2.69 | 2.89 |
| b | 0.71 | 0.81 | 0.96 |
| b1 | | 1.27 | |
| c | 0.36 | 0.38 | 0.61 |
| D | 14.94 | 15.24 | 15.54 |
| D1 | 8.85 | 9.00 | 9.15 |
| E | 10.01 | 10.16 | 10.31 |
| e | | 2.54 | |
| e1 | | 5.06 | |
| H1 | 6.04 | 6.24 | 6.44 |
| L | 12.7 | 13.56 | 13.78 |
| L1 | | 3.5 | |
| ΦP | 3.74 | 3.84 | 4.04 |
| Q | 2.54 | 2.74 | 2.94 |
| Θ1 | | 7° | |
| Θ2 | | 3° | |
| Θ3 | | 4° | |

**TO-220AB**

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• FAX (86) 25-87123900 • World Wide Web Site - http://www.sangdest.com.cn • E-Mail Address - sales@ sangdest.com.cn •

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# MBR3035 /3045CT-1

**Technical Data**
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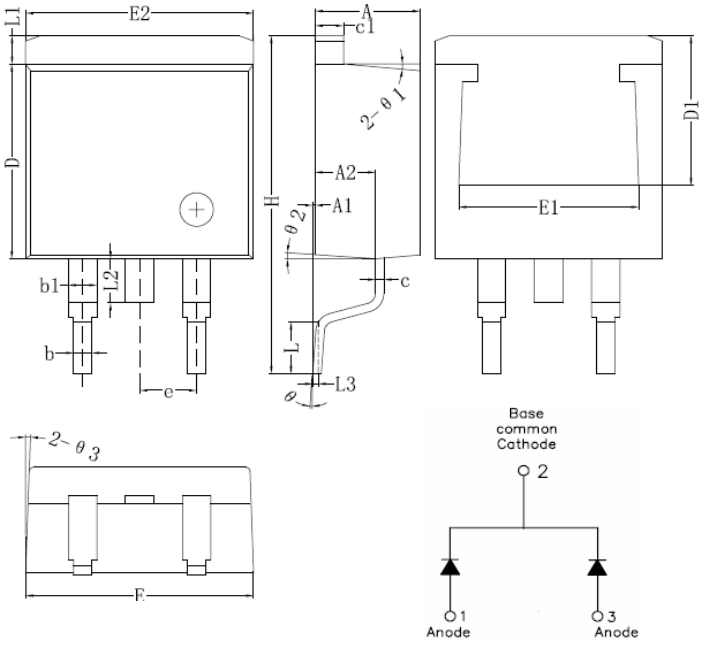
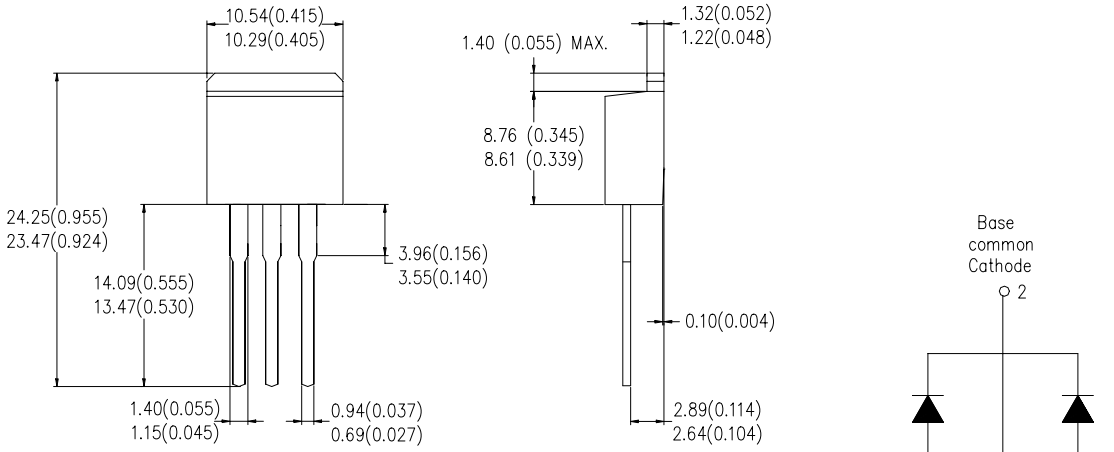
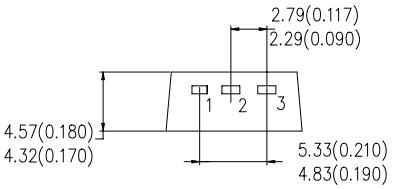



| Symbol | Dimensions in millimeters | | |
|---|---|---|---|
| | Min. | Typical | Max. |
| A | 4.55 | 4.70 | 4.85 |
| A1 | 0 | 0.10 | 0.25 |
| A2 | 2.59 | 2.69 | 2.89 |
| b | 0.71 | 0.81 | 0.96 |
| b1 | | 1.27 | |
| c | 0.36 | 0.38 | 0.61 |
| c1 | 1.17 | 1.27 | 1.37 |
| D | 8.55 | 8.70 | 8.85 |
| D1 | 6.40 | | |
| E | 10.01 | 10.16 | 10.31 |
| E1 | 7.6 | | |
| E2 | 9.98 | 10.08 | 10.18 |
| e | | 2.54 | |
| H | 14.6 | 15.1 | 15.6 |
| L | 2.00 | 2.30 | 2.70 |
| L1 | 1.17 | 1.27 | 1.40 |
| L2 | | | 2.20 |
| L3 | | 0.25BSC | |
| e | 0 | - | 8° |
| e1 | | 5° | |
| e2 | | 4° | |
| e3 | | 4° | |

## $D^2PAK$




## TO-262

# MBR3035 /3045CT
# MBRB3035 /3045CT
# MBR3035 /3045CT-1

**Technical Data**
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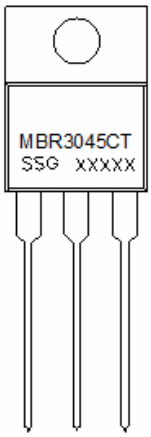
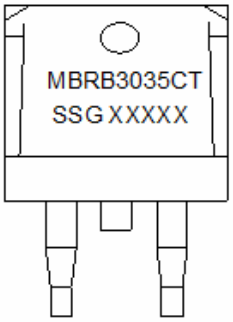
## Marking Diagram:




MBR3045CT




MBRB3035CT

Where XXXXX is YYWWL

MBR = Device Type
B = Package type
30 = Forward Current (30A)
35 = Reverse Voltage (35V)
CT/CT-1 = Configuration
SSG = SSG
YY = Year
WW = Week
L = Lot Number

**Cautions**: Molding resin
Epoxy resin UL:94V-0

## Ordering Information:

| Device | Package | Shipping |
|---|---|---|
| MBR3035CT | TO-220AB (Pb-Free) | 50pcs / tube |
| MBRB3035CT | $D^2$ PAK (Pb-Free) | 800pcs / reel |

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

## Maximum Ratings:

| Characteristics | Symbol | Condition | Max. | | Units |
|---|---|---|---|---|---|
| Peak Inverse Voltage | $V_{RWM}$ | - | 35 | MBR3035CT<br>MBRB3035CT<br>MBR3035CT-1 | V |
| | | | 45 | MBR3045CT<br>MBRB3045CT<br>MBR3045CT-1 | |
| Max. Average Forward | $I_{F(AV)}$ | 50% duty cycle @$T_C$ = 123°C, rectangular wave form | 15(Per leg) | | A |
| | | | 30(Per Device) | | |
| Max. Peak One Cycle Non-Repetitive Surge Current | $I_{FSM}$ | 8.3 ms, half Sine pulse | 240 | | A |

## Electrical Characteristics:

| Characteristics | Symbol | Condition | Max. | Units |
|---|---|---|---|---|
| Max. Forward Voltage Drop (per leg) * | $V_{F1}$ | @ 15A, Pulse, $T_J$ = 25 °C | 0.70 | V |
| | $V_{F2}$ | @ 15A, Pulse, $T_J$ = 125 °C | 0.57 | V |
| Max. Reverse Current (per leg) * | $I_{R1}$ | @$V_R$ = rated $V_R$ $T_J$ = 25 °C | 1.0 | mA |
| | $I_{R2}$ | @$V_R$ = rated $V_R$ $T_J$ = 100 °C | 40 | mA |
| Max. Junction Capacitance (per leg) | $C_T$ | @$V_R$ = 4V, $T_C$ = 25 °C $f_{SIG}$ = 1MHz | 500 | pF |
| Max. Voltage Rate of Change | dv/dt | - | 10,000 | V/μs |

* Pulse Width < 300μs, Duty Cycle <2%

## Thermal-Mechanical Specifications:

| Characteristics | Symbol | Condition | Specification | Units |
|---|---|---|---|---|
| Max. Junction Temperature | $T_J$ | - | -55 to +150 | °C |
| Max. Storage Temperature | $T_{stg}$ | - | -55 to +150 | °C |
| Maximum Thermal Resistance Junction to Case | $R_{\theta JC}$ | DC operation | 1.6 | °C/W |
| Maximum Thermal Resistance, Case to Heat Sink | $R_{\theta JA}$ | DC operation | 50 | °C/W |
| Approximate Weight | wt | - | 2/1.85 | g |
| Case Style | TO-220AB /$D^2$PAK /TO-262 | | | |

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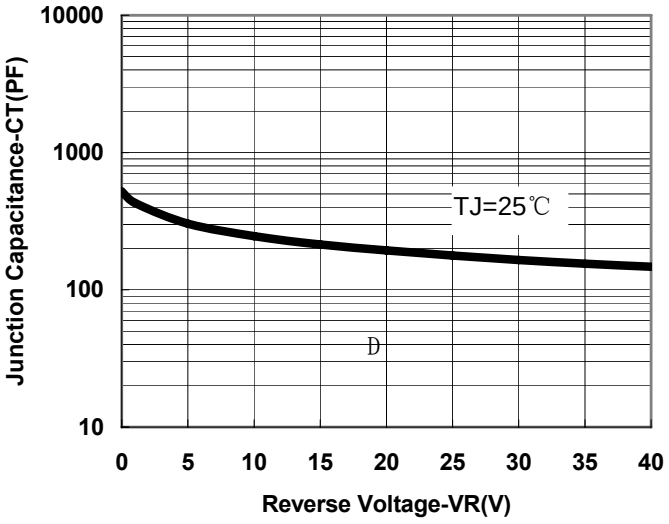


**Fig.1-Typical Junction Capacitance**

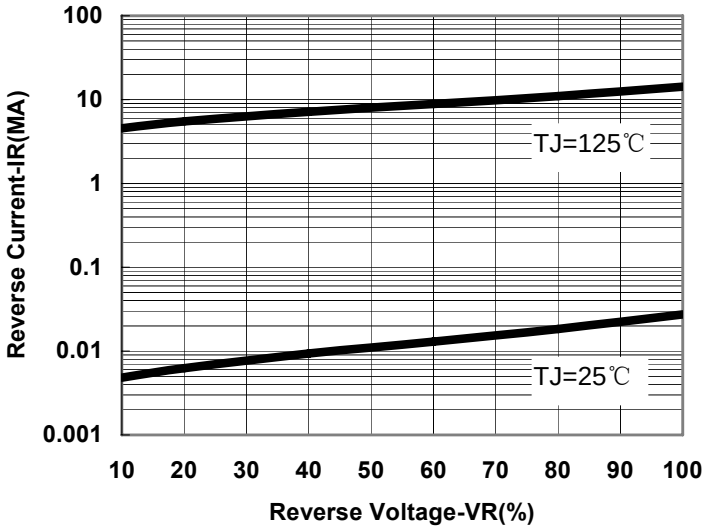


**Fig.2-Typical Reverse Characteristics**

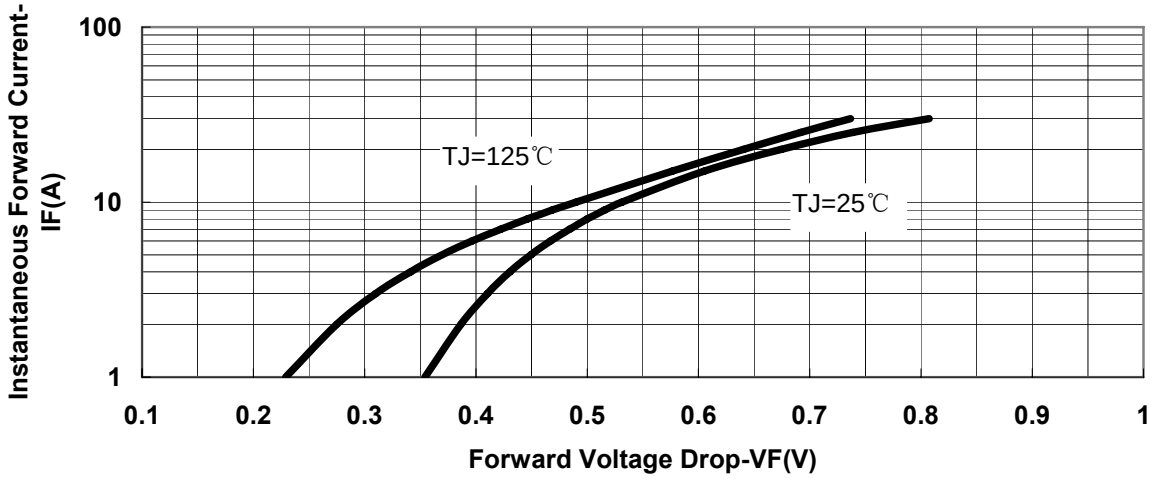


**Fig.3-Typical Instantaneous Forward Voltage Characteristics**

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