Technical Data
Data Sheet N0914, Rev. -

*Green Products*

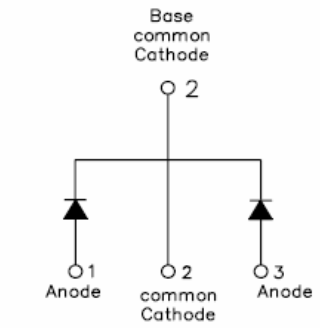
# SBR30100CT SCHOTTKY RECTIFIER

## Applications:

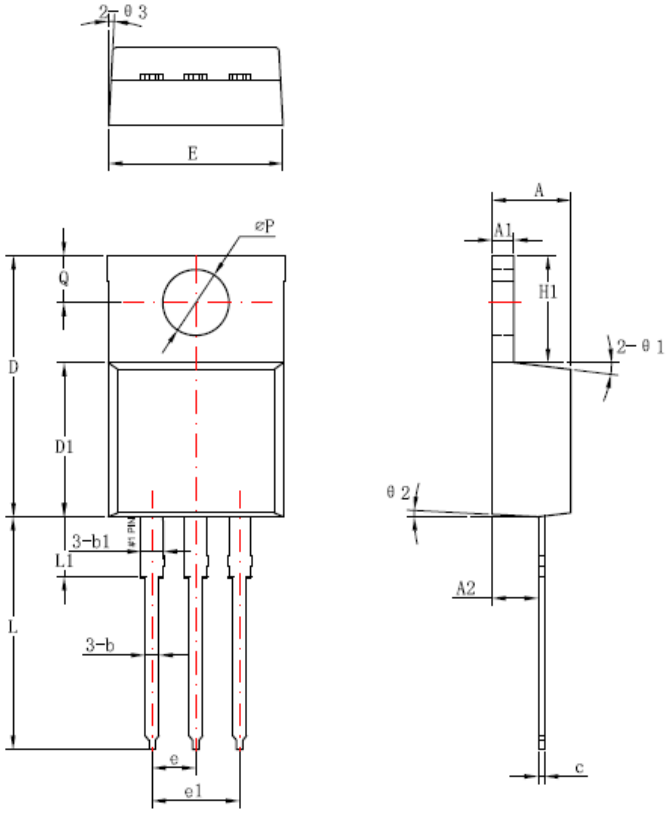
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

## Features:

- 150℃ TJ 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

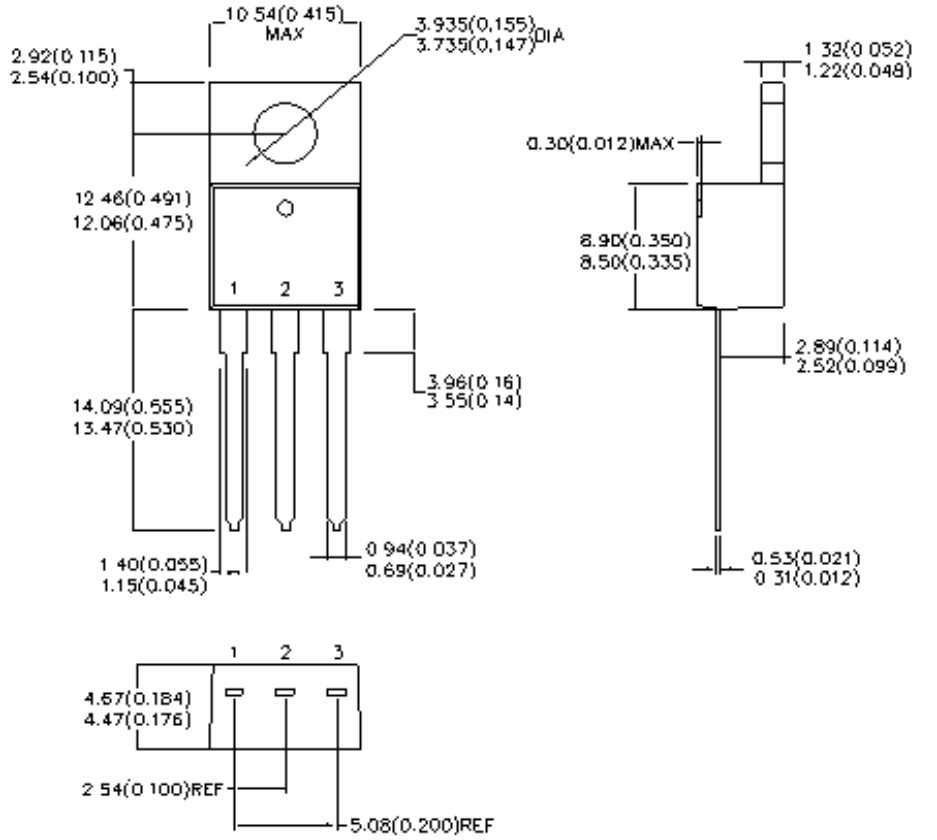


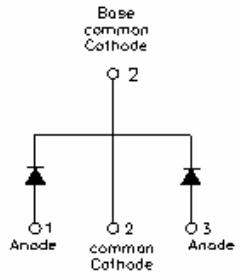

## Mechanical Dimensions (In mm / Inches) and Marking:




| 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° | |

**OPTION1 (HD)**




**OPTION2 (CJ)**

**TO-220AB**

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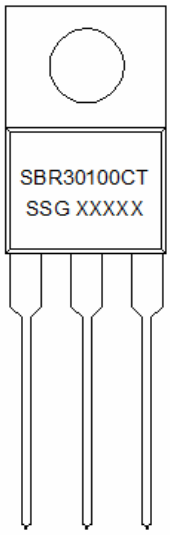
## Marking Diagram:




Where XXXXX is YYWWL

| | |
|---|---|
| SBR | = Device Type |
| 30 | = Forward Current (30A) |
| 100 | = Reverse Voltage (100V) |
| CT | = Configuration |
| SSG | = SSG |
| YY | = Year |
| WW | = Week |
| L | = Lot Number |

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

## Ordering Information:

| Device | Package | Shipping |
|---|---|---|
| SBR30100CT | TO-220AB (Pb-Free) | 50 pcs / tube |

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 | $V_{RWM}$ | - | 100 | V |
| Max. Average Forward | $I_{F(AV)}$ | 50% duty cycle @$T_C$ = 133°C, rectangular wave form | 30 | A |
| Peak Repetitive Forward Current(per leg) | $I_{FRM}$ | Rated $V_R$ square wave, 20KHz $T_C$ = 133°C | 20 | A |
| Max. Peak One Cycle Non-Repetitive Surge Current (per leg) | $I_{FSM}$ | Surge applied at rated load conditions halfwave, single phase,60Hz | 150 | A |

## Electrical Characteristics:

| Characteristics | Symbol | Condition | Max. | Units |
|---|---|---|---|---|
| Max. Forward Voltage Drop (per leg) * | $V_{F1}$ | @ 15 A, Pulse, $T_J$ = 25 °C | 0.90 | V |
| | $V_{F2}$ | @ 15 A, Pulse, $T_J$ = 125 °C | 0.80 | V |
| Max. Reverse Current (per leg) * | $I_{R1}$ | @$V_R$ = rated $V_R$<br>$T_J$ = 25 °C | 1.0 | mA |
| | $I_{R2}$ | @$V_R$ = rated $V_R$<br>$T_J$ = 125 °C | 6.0 | mA |
| Max. Junction Capacitance (per leg) | $C_T$ | @$V_R$ = 5V, $T_C$ = 25 °C<br>$f_{SIG}$ = 1MHz | 400 | 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 | 3.0 | °C/W |
| Maximum Thermal Resistance, Case to Heat Sink | $R_{\theta JA}$ | DC operation | 50 | °C/W |
| Maximum Thermal Resistance, Case to Heat Sink | $R_{\theta CS}$ | Mounting surface, smooth and greased | 0.50 | °C/W |
| Approximate Weight | wt | - | 2.0 | g |
| Case Style | ITO-220AB | | | |

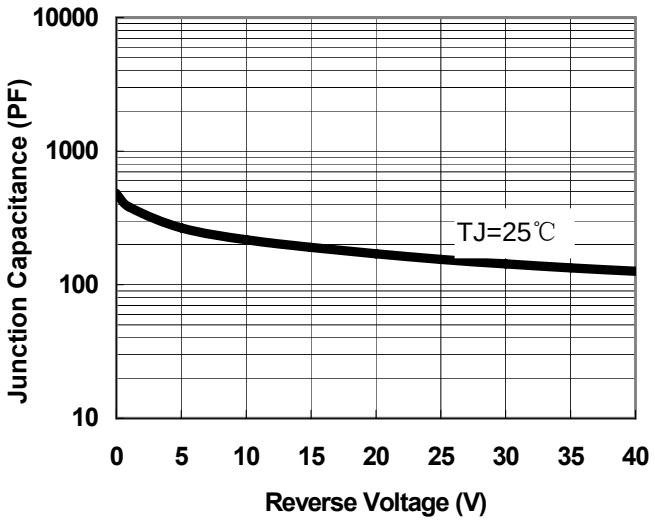



Fig.1-Typical Junction Capacitance

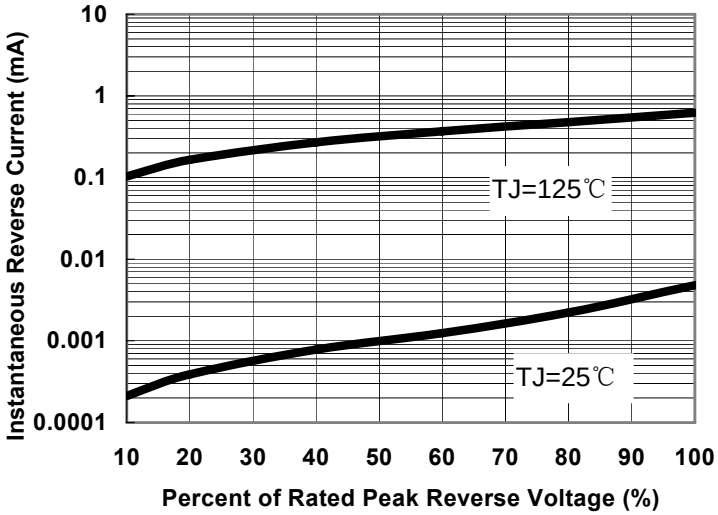



Fig.2-Typical Reverse Characteristics

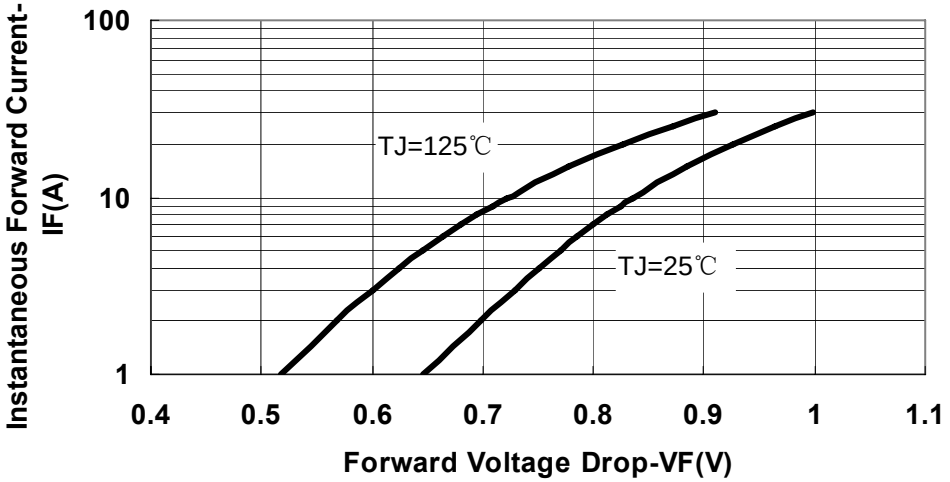



Fig.3-Typical Instantaneous Forward Voltage Characteristics

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