



**THE DATASHEET OF  
MBR30100CT\_TO\_00001**





# MBR3040CT SERIES

## SCHOTTKY BARRIER RECTIFIERS

**VOLTAGE** 40 to 200 Volt **CURRENT** 30 Ampere

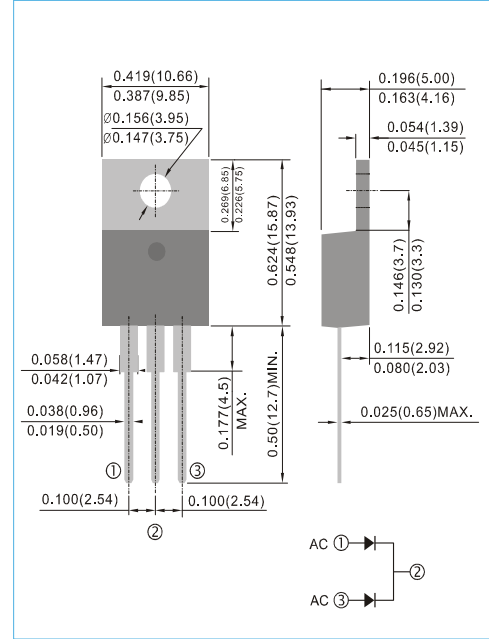
**TO-220AB** Unit : inch(mm)

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O. Flame Retardant Epoxy Molding Compound.
- Low power loss, high efficiency.
- High current capability
- For use in low voltage, high frequency inverters free wheeling, and polarity protection applications.
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

### MECHANICAL DATA

- Case: TO-220AB molded plastic
- Terminals: solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: As marked.
- Weight: 0.067 ounces, 1.89 grams.



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| PARAMETER  | SYMBOL          | MBR3040CT               | MBR3045CT | MBR3050CT | MBR3060CT | MBR3080CT               | MBR3090CT | MBR30100CT | MBR30150CT | MBR30200CT | UNITS  |    |
|--|-----------------|-------------------------|-----------|-----------|-----------|-------------------------|-----------|------------|------------|------------|--------|----|
| Maximum Recurrent Peak Reverse Voltage   | $V_{RRM}$       | 40                      | 45        | 50        | 60        | 80                      | 90        | 100        | 150        | 200        | V      |    |
| Maximum RMS Voltage  | $V_{RMS}$       | 28                      | 31.5      | 35        | 42        | 56                      | 63        | 70         | 105        | 140        | V      |    |
| Maximum DC Blocking Voltage  | $V_{DC}$        | 40                      | 45        | 50        | 60        | 80                      | 90        | 100        | 150        | 200        | V      |    |
| Maximum Average Forward Current  | $I_{F(AV)}$     | 30                      |           |           |           |                         |           |            |            |            | A      |    |
| Peak Forward Surge Current : 8.3 ms single half sine-wave superimposed on rated load per diode | $I_{FSM}$       | 275                     |           |           |           |                         |           |            |            |            | A      |    |
| Maximum Forward Voltage at 15A per leg   | $V_F$           | 0.7                     |           | 0.75      |           | 0.8                     |           | 0.9        |            |            | V      |    |
| Maximum DC Reverse Current at Rated DC Blocking Voltage  | $I_R$           | $T_J=25^\circ C$<br>0.1 |           |           |           | $T_J=125^\circ C$<br>20 |           |            |            | 0.05<br>20 |        | mA |
| Typical Thermal Resistance   | $R_{\theta JC}$ | 1.4                     |           |           |           |                         |           |            |            |            | °C / W |    |
| Operating Junction and Storage Temperature Range   | $T_J, T_{STG}$  | -55 to +150             |           |           |           | -65 to +175             |           |            |            |            |        | °C |

Note :

Both Bonding and Chip structure are available.



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## RATING AND CHARACTERISTIC CURVES

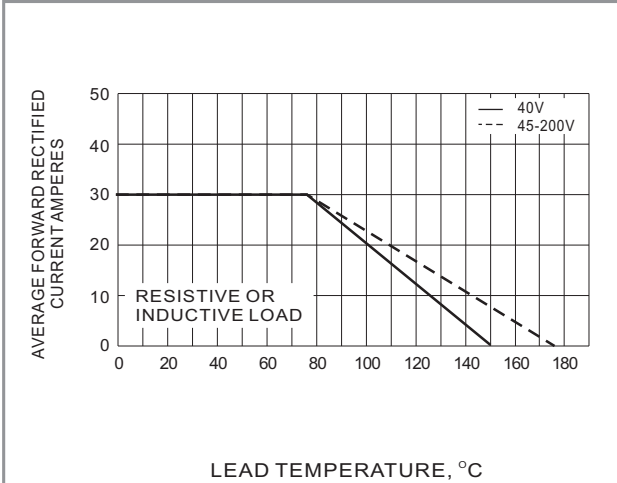


Fig.1 FORWARD CURRENT DERATING CURVE

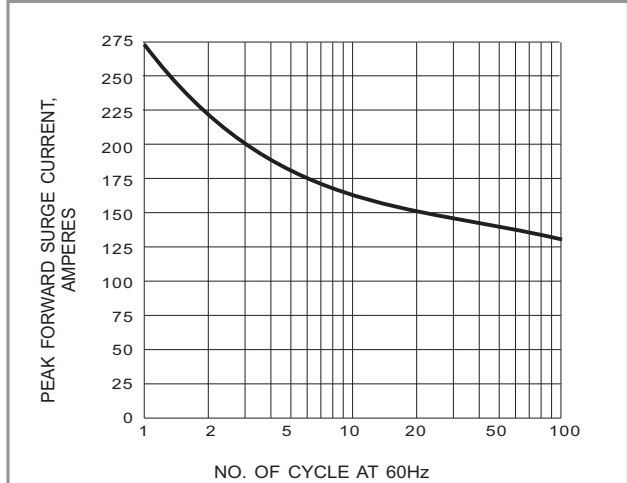


Fig.2 MAXIMUM NON-REPETITIVE SURGE CURRENT

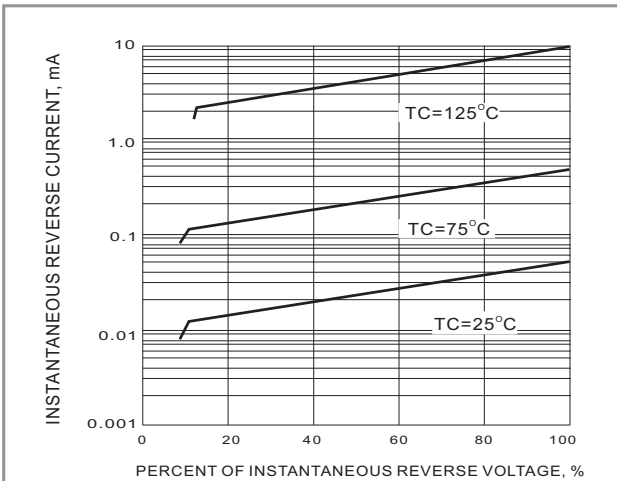


Fig.3 TYPICAL REVERSE CHARACTERISTIC

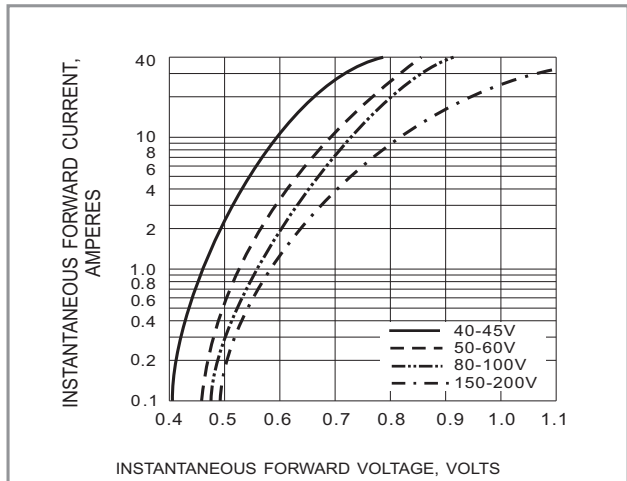


Fig.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC

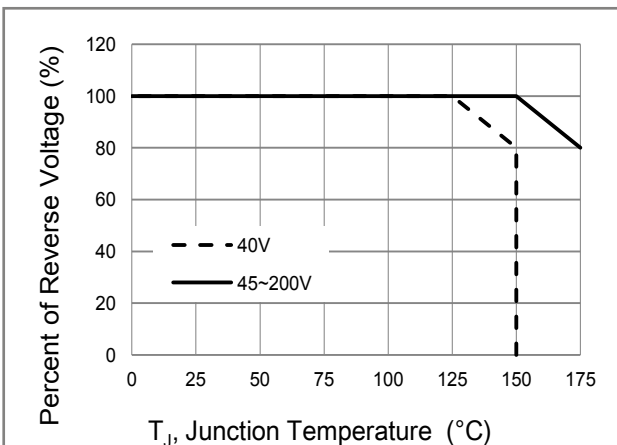


Fig.5 Operating Temperature Derating Curve



# MBR3040CT SERIES

Part No\_packing code\_Version

MBR3040CT\_T0\_00001

For example :

RB500V-40\_R2\_00001



| Packing type                         | Packing Code <b>XX</b> |                                  |                      | Version Code <b>XXXXX</b> |                      |                                       |
|--------------------------------------|------------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
|                                      | 1 <sup>st</sup> Code   | Packing size code                | 2 <sup>nd</sup> Code | HF or RoHS                | 1 <sup>st</sup> Code | 2 <sup>nd</sup> ~5 <sup>th</sup> Code |
| Tape and Ammunition Box (T/B)        | A                      | N/A                              | 0                    | HF                        | 0                    | serial number                         |
| Tape and Reel (T/R)                  | R                      | 7"                               | 1                    | RoHS                      | 1                    | serial number                         |
| Bulk Packing (B/P)                   | B                      | 13"                              | 2                    |                           |                      |                                       |
| Tube Packing (T/P)                   | T                      | 26mm                             | X                    |                           |                      |                                       |
| Tape and Reel (Right Oriented) (TRR) | S                      | 52mm                             | Y                    |                           |                      |                                       |
| Tape and Reel (Left Oriented) (TRL)  | L                      | PANASERT T/B CATHODE UP (PBCU)   | U                    |                           |                      |                                       |
| FORMING                              | F                      | PANASERT T/B CATHODE DOWN (PBCD) | D                    |                           |                      |                                       |



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