

# MBR4040PT-AU SERIES

## SCHOTTKY BARRIER RECTIFIERS

**VOLTAGE** 40 to 45 Volt **CURRENT** 40 Ampere

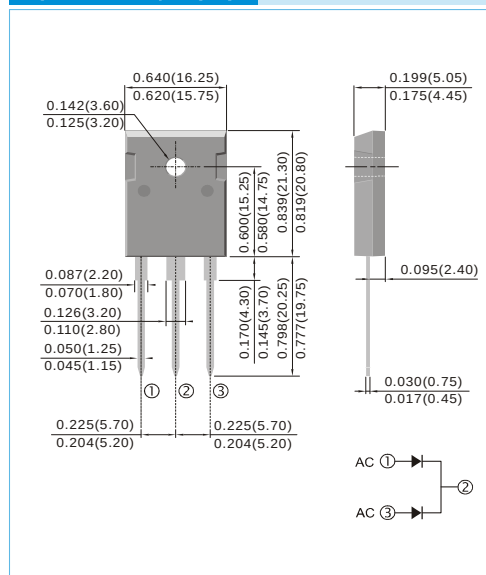
**TO-247AD / TO-3P** Unit : inch(mm)

### 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.
- Acquire quality system certificate : TS16949
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2011/65/EU directive

### MECHANICAL DATA

- Case: TO-247AD/TO-3P molded plastic
- Terminals: solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: As marked.
- Weight: 0.224 ounce, 6.367 gram



### 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          | MBR4040PT-AU | MBR4045PT-AU | UNITS           |
|----------------------------------------------------------------------------------------------------|-----------------|--------------|--------------|-----------------|
| Maximum Recurrent Peak Reverse Voltage                                                             | $V_{RRM}$       | 40           | 45           | V               |
| Maximum RMS Voltage                                                                                | $V_{RMS}$       | 28           | 31.5         | V               |
| Maximum DC Blocking Voltage                                                                        | $V_{DC}$        | 40           | 45           | V               |
| Maximum Average Forward Current                                                                    | $I_{F(AV)}$     | 40           |              | A               |
| Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load                | $I_{FSM}$       | 350          |              | A               |
| Maximum Forward Voltage at 20A per leg                                                             | $V_F$           | 0.7          |              | V               |
| Maximum DC Reverse Current at Rated DC Blocking Voltage<br>$T_J=25^{\circ}C$<br>$T_J=125^{\circ}C$ | $I_R$           | 0.1<br>20    |              | mA              |
| Typical Thermal Resistance                                                                         | $R_{\theta JC}$ | 1.2          |              | $^{\circ}C / W$ |
| Operating Junction and Storage Temperature Range                                                   | $T_J, T_{STG}$  | -55 to + 150 | -65 to +175  | $^{\circ}C$     |

Note :

Both Bonding and Chip structure are available.

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## RATING AND CHARACTERISTIC CURVES

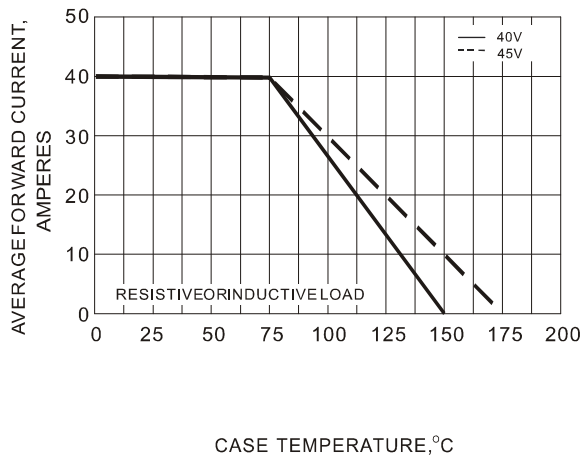


Fig.1-FORWARD CURRENT DERATING CURVE

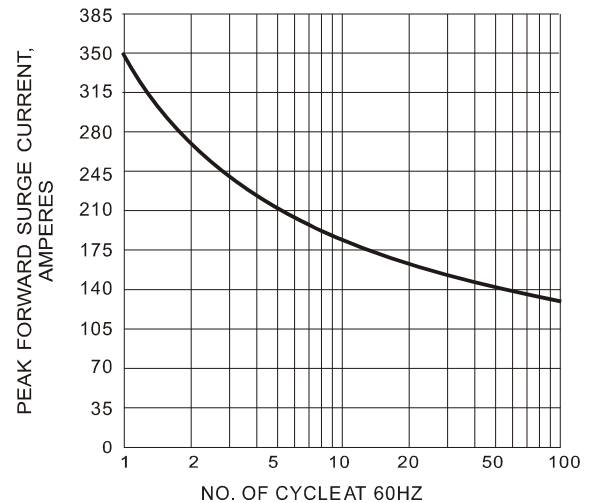


Fig.2-MAXMUM NON-REPETITIVE SURGE CURRENT

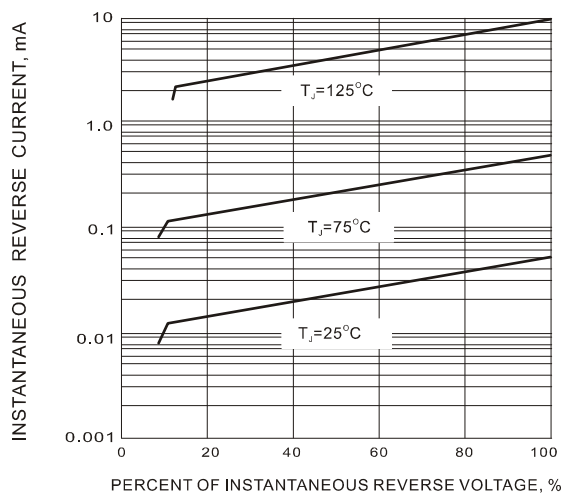


Fig.3-TYPICAL REVERSE CHARACTERISTIC

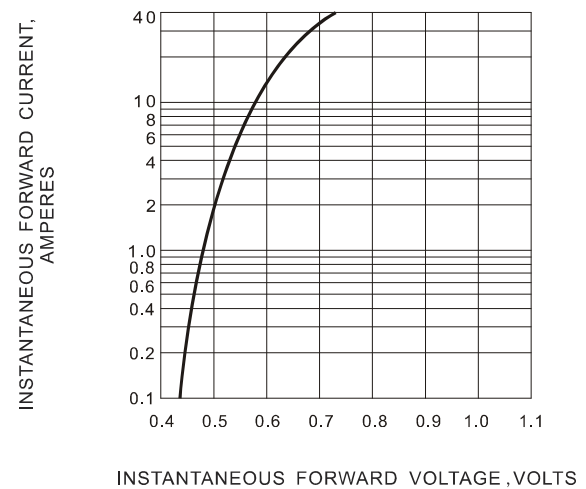


Fig.4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC

## MBR4040PT-AU SERIES

### Part No\_packing code\_Version

MBR4040PT-AU\_T0\_000A1

MBR4040PT-AU\_T0\_100A1

For example :

**RB500V-40\_R2\_00001**

Part No.

Serial number

Version code means HF

Packing size code means 13"

Packing type means T/R

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



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