# MBR4020PT~MBR40100PT

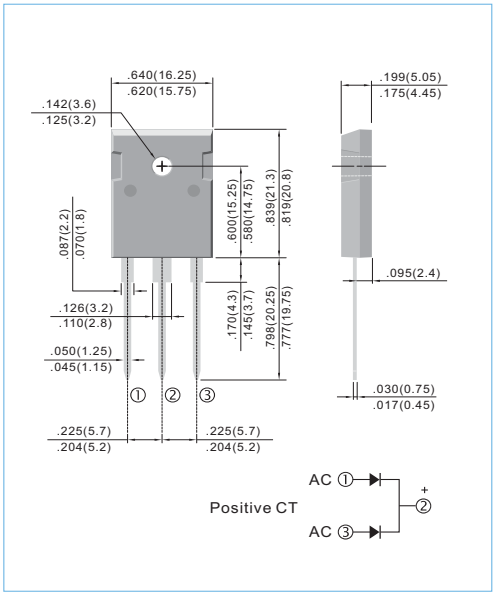
## 40 AMPERES SCHOTTKY BARRIER RECTIFIERS

**VOLTAGE** 20 to 100 Volts **CURRENT** 40 Amperes

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O. Flame Retardant Epoxy Molding Compound.
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency.
- High current capability
- Guardring for overvlotage protection
- For use in low voltage,high frequency inverters free wheeling , and polarlity protection applications.
- Pb free product are available : 99% Sn above can meet Rohs environment substance directive request

**TO-3P** Unit: inch (mm)




### MECHANICALDATA

Case: TO-3P molded plastic

Terminals: solder plated, solderable per MIL-STD-750, Method 2026

Polarity: As marked.

Mounting Position: Any

Weight: 0.2 ounces, 5.6 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 | MBR4020PT | MBR4030PT | MBR4040PT | MBR4045PT | MBR4050PT | MBR4060PT | MBR4080PT | MBR40100PT | UNITS |
|---|---|---|---|---|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 20 | 30 | 40 | 45 | 50 | 60 | 80 | 100 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 14 | 21 | 28 | 31.5 | 35 | 42 | 56 | 70 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 20 | 30 | 40 | 45 | 50 | 60 | 80 | 100 | V |
| Maximum Average Forward Current (See fig.1) | $I_{AV}$ | 40 | | | | | | | | A |
| Peak Forward Surge Current :8.3ms single half sine-wave superimposed on rated load(JEDEC method) | $I_{FSM}$ | 400 | | | | | | | | A |
| Maximum Forward Voltage at 20A, per leg | $V_F$ | 0.7 | | | | 0.8 | | | | V |
| Maximum DC Reverse Current $T_C$=25°C at Rated DC Blocking Voltage $T_C$=125°C | $I_R$ | 0.1<br>20 | | | | | | | | mA |
| Typical Thermal Resistance | RθJC | 1.2 | | | | | | | | °C / W |
| Operating Junction Temperature Range | $T_J$ | -50 TO + 150 | | | | | | | | °C |
| Storage Temperature Range | $T_{STG}$ | -50 TO + 175 | | | | | | | | °C |

Notes :

Both Bonding and Chip structure are available.

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## RATING AND CHARACTERISTIC CURVES

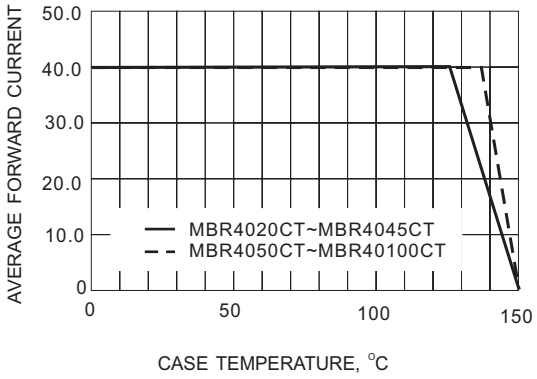


Fig.1- FORWARD CURRENT DERATING CURVE

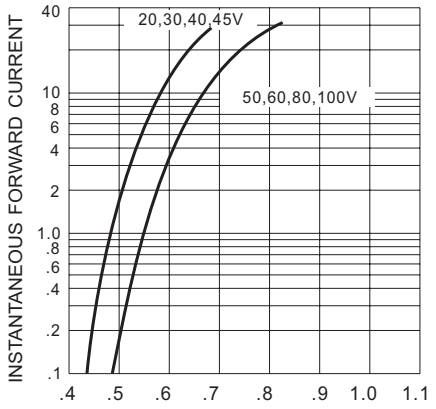


Fig.2- TYPICAL INSTANEOUS FORWARD CHARACTERISTIC

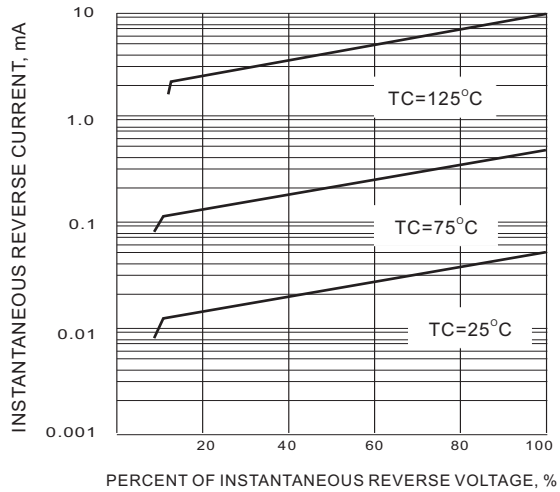


Fig.3- TYPICAL REVERSE CHARACTERISTICS

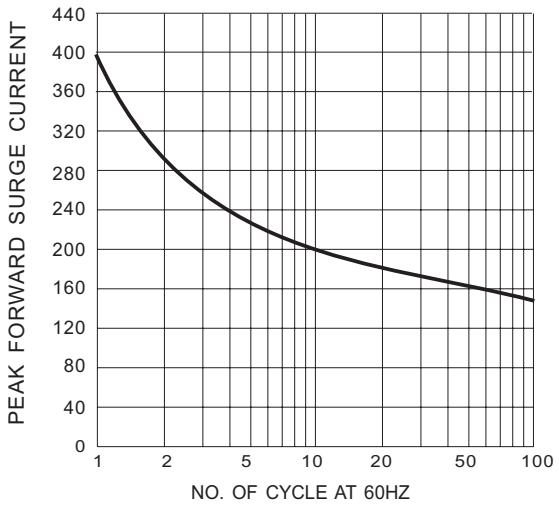


Fig.4- MAXIMUM NON-REPETITIVE SURGE CURRENT