# America Semiconductor

# MBRT30020 thru MBRT30040R

## Silicon Power Schottky Diode

$V_{RRM}$ = 20 V - 100 V
$I_F$ = 300 A

**Features**
- High Surge Capability
- Types up to 100 V $V_{RRM}$
- Isolation Type Package

**Three Tower Package**



**Maximum ratings, at $T_j$ = 25 °C, unless otherwise specified ("R" devices have leads reversed)**

| Parameter | Symbol | Conditions | MBRT30020 (R) | MBRT30030 (R) | MBRT30035 (R) | MBRT30040 (R) | Unit |
|---|---|---|---|---|---|---|---|
| Repetitive peak reverse voltage | $V_{RRM}$ | | 20 | 30 | 35 | 40 | V |
| RMS reverse voltage | $V_{RMS}$ | | 14 | 21 | 25 | 28 | V |
| DC blocking voltage | $V_{DC}$ | | 20 | 30 | 35 | 40 | V |
| Continuous forward current | $I_F$ | $T_C \leq 125$ °C | 300 | 300 | 300 | 300 | A |
| Surge non-repetitive forward current, Half Sine Wave | $I_{F,SM}$ | $T_C$ = 25 °C, $t_p$ = 8.3 ms | 2500 | 2500 | 2500 | 2500 | A |
| Operating temperature | $T_j$ | | -40 to 150 | -40 to 150 | -40 to 150 | -40 to 150 | °C |
| Storage temperature | $T_{stg}$ | | -40 to 175 | -40 to 175 | -40 to 175 | -40 to 175 | °C |

**Electrical characteristics, at Tj = 25 °C, unless otherwise specified**

| Parameter | Symbol | Conditions | MBRT30020 (R) | MBRT30030(R) | MBRT30035 (R) | MBRT30040 (R) | Unit |
|---|---|---|---|---|---|---|---|
| Diode forward voltage | $V_F$ | $I_F$ = 150 A, $T_j$ = 25 °C | 0.75 | 0.75 | 0.75 | 0.75 | V |
| Reverse current | $I_R$ | $V_R$ = 20 V, $T_j$ = 25 °C | 1 | 1 | 1 | 1 | mA |
| | | $V_R$ = 20 V, $T_j$ = 125 °C | 20 | 20 | 20 | 20 | |
| **Thermal characteristics** | | | | | | | |
| Thermal resistance, junction - case | $R_{thJC}$ | | 0.16 | 0.16 | 0.16 | 0.16 | °C/W |

RoHS Compliant

Figure .1- Typical Forward Characteristics

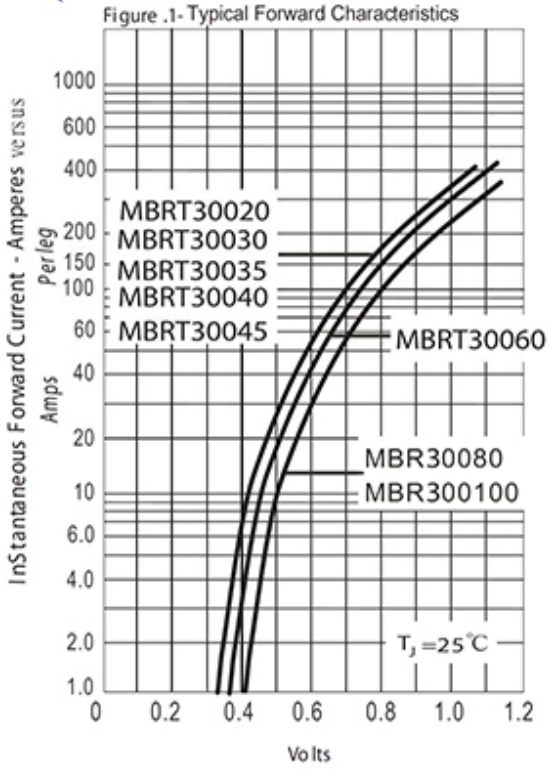



Figure .2- Forward Derating Curve

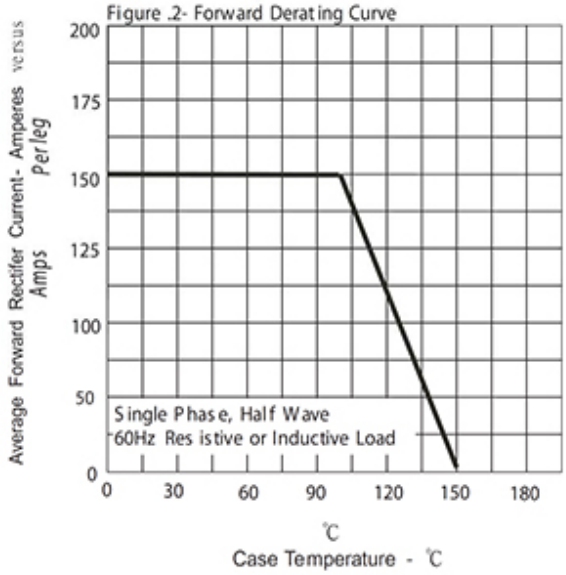



Figure .3-Peak Forward Surge Current

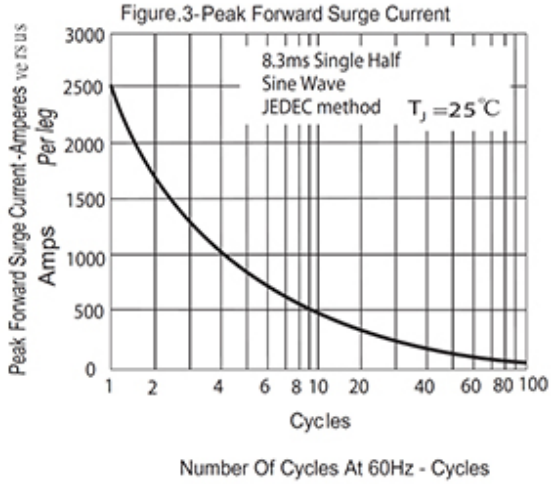



Figure .4- Typical Reverse Characteristics

