# Zibo Seno Electronic Engineering Co., Ltd.

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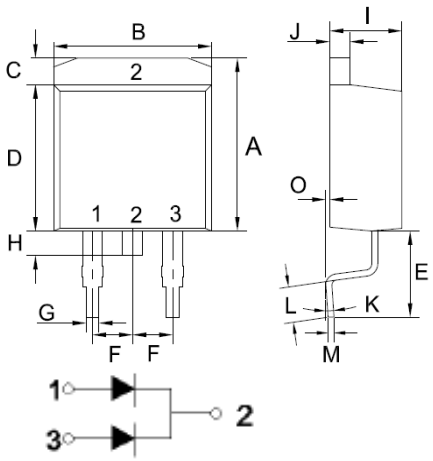
## MBR2040CG-MBR20200CG

### 20.0A SCHOTTKY BARRIER DIODE

## Features

- Schottky Barrier Chip
- Ideally Suited for Automatic Assembly
- Low Power Loss, High Efficiency
- For Use in Low Voltage Application
- Guard Ring Die Construction
- Plastic Case Material has UL Flammability Classification Rating 94V-O

## TO-263/D$^2$PAK




| TO-263 (D² PAK) Unit:mm | | |
|---|---|---|
| DIM | MIN | MAX |
| A | 10.44 | 10.84 |
| B | 9.81 | 10.21 |
| C | 1.44 | 1.84 |
| D | 8.80 | 9.20 |
| E | 4.46 | 4.66 |
| F | 2.44 | 2.64 |
| G | 0.61 | 1.01 |
| H | 0.70 | 1.30 |
| I | 4.27 | 4.87 |
| J | 1.07 | 1.47 |
| K | 0° | 8° |
| L | 2.10 | 2.50 |
| M | 0.30 | 0.46 |
| O | 0 | 0.25 |

## Mechanical Data

- Case: TO-263/D$^2$PAK, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Mounting Position: Any
- **Lead Free: For RoHS / Lead Free Version**

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## Maximum Ratings and Electrical Characteristics @$T_A$=25°C unless otherwise specified

Single Phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

| Characteristic | Symbol | MBR 2040CG | MBR 2045CG | MBR 2050CG | MBR 2060CG | MBR 2080CG | MBR 20100CG | MBR 20150CG | MBR 20200CG | Units |
|---|---|---|---|---|---|---|---|---|---|---|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 40 | 45 | 50 | 60 | 80 | 100 | 150 | 200 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 28 | 31 | 35 | 42 | 56 | 70 | 105 | 140 | V |
| Average Rectified Output Current @$T_L$ = 75° C (Note 1) | $I_O$ | 20.0 | | | | | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$ | 150 | | | | | | | | A |
| Forward Voltage @$I_F$ = 10A | $V_{FM}$ | 0.70 | | 0.80 | | 0.85 | | 0.92 | | V |
| Peak Reverse Current @$T_A$ = 25°C<br>At Rated DC Blocking Voltage @$T_A$ = 100°C | $I_{RM}$ | 0.1<br>20 | | | | | | | | mA |
| Typical Junction Capacitance (Note 2) | $C_j$ | 350 | | 280 | | 200 | | | | pF |
| Typical Thermal Resistance (Note 1) | $R_{\theta JA}$ | 3 | | | | | | | | °C/W |
| Operating and Storage Temperature Range | $T_j$, $T_{STG}$ | -55 to +150 | | | | | | -55 to +175 | | °C |

Note: 1. Valid provided that leads are kept at ambient temperature at a distance of 9.5mm from the case.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.



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FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

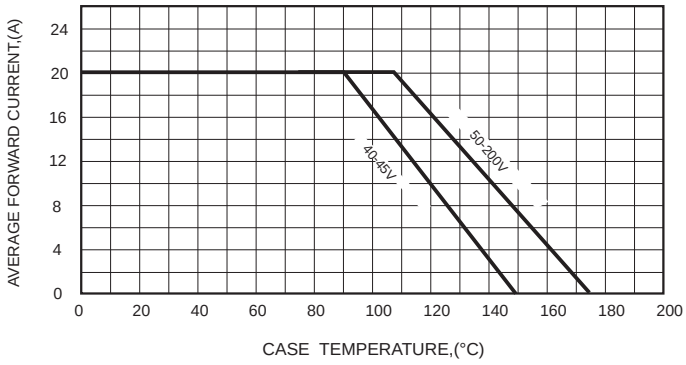
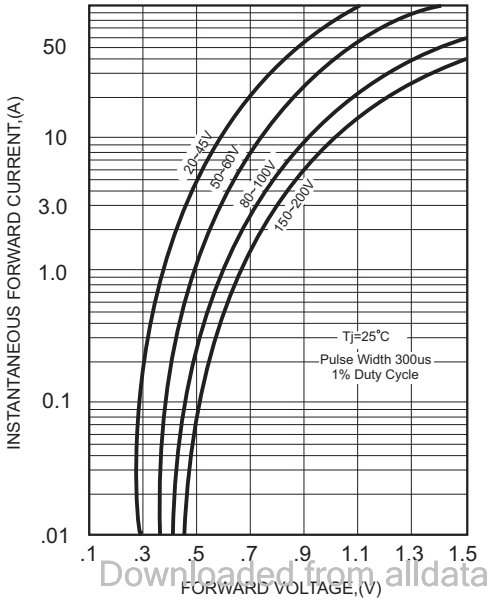



FIG.2-TYPICAL FORWARD CHARACTERISTICS




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FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

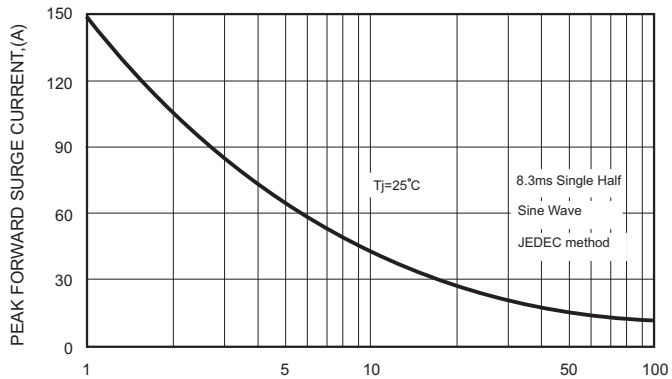
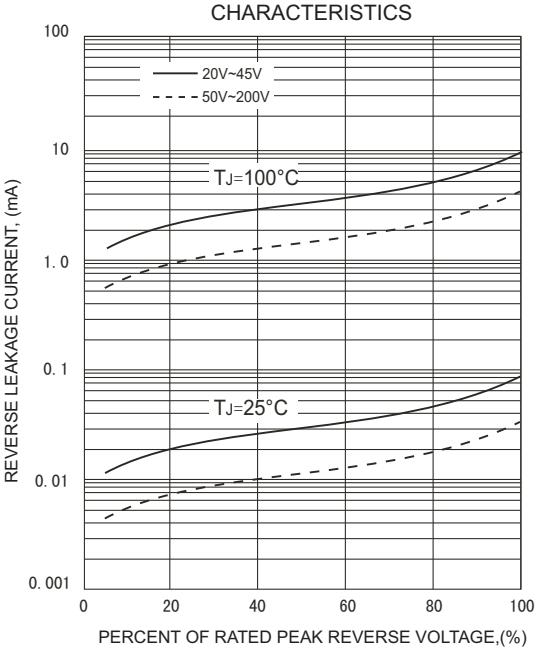



FIG.4 - TYPICAL REVERSE CHARACTERISTICS






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