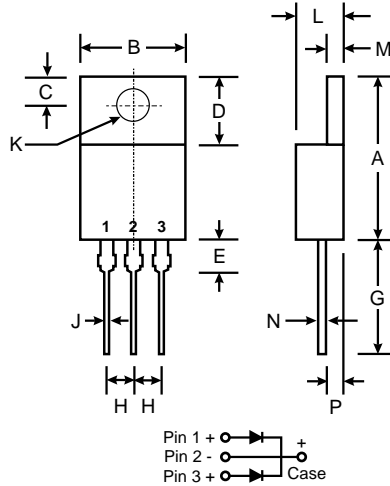


#### Features

- 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

#### Mechanical Data

- Case: TO-220AB, 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**



| TO-220AB             |                    |                    |
|----------------------|--------------------|--------------------|
| Dim                  | Min                | Max                |
| A                    | 14.22              | 15.88              |
| B                    | 9.57               | 10.57              |
| C                    | 2.54               | 3.43               |
| D                    | 5.80               | 6.80               |
| E                    | —                  | 6.35               |
| G                    | 12.70              | 14.73              |
| H                    | 2.29               | 2.79               |
| J                    | 0.51               | 1.14               |
| K                    | 3.53 $\varnothing$ | 4.14 $\varnothing$ |
| L                    | 3.56               | 4.83               |
| M                    | 1.07               | 1.47               |
| N                    | 0.30               | 0.64               |
| P                    | 2.03               | 2.92               |
| All Dimensions in mm |                    |                    |

#### Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

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

| Characteristic  | Symbol          | MBR 1640 CT | MBR 1645 CT | MBR 1650 CT | MBR 1660 CT | MBR 16100 CT | MBR 16150 CT | MBR 16200 CT | Units              |
|---|-----------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------------|
| Peak Repetitive Reverse Voltage   | $V_{RRM}$       | 40          | 45          | 50          | 60          | 100          | 150          | 200          | V                  |
| Working Peak Reverse Voltage  | $V_{RWM}$       |             |             |             |             |              |              |              |                    |
| DC Blocking Voltage   | $V_R$           |             |             |             |             |              |              |              |                    |
| RMS Reverse Voltage   | $V_{R(RMS)}$    | 28          | 31          | 35          | 42          | 70           | 105          | 140          | V                  |
| Average Rectified Output Current @ $T_L = 75^\circ\text{C}$ (Note 1)  | $I_O$           | 16.0        |             |             |             |              |              |              | A                  |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$       | 120         |             |             |             |              |              |              | A                  |
| Forward Voltage @ $I_F = 8\text{A}$   | $V_{FM}$        | 0.70        |             | 0.80        |             | 0.85         |              | 0.92         | V                  |
| Peak Reverse Current @ $T_A = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$        | $I_{RM}$        | 0.1<br>20   |             |             |             |              |              |              | mA                 |
| Typical Junction Capacitance (Note 2)   | $C_j$           | 350         |             | 280         |             |              | 200          |              | pF                 |
| Typical Thermal Resistance (Note 1)   | $R_{\theta JA}$ | 3.5         |             |             |             |              | 2.0          |              | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range   | $T_j, T_{STG}$  | -55 to +150 |             |             |             |              |              | -55 to +175  | $^\circ\text{C}$   |

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.

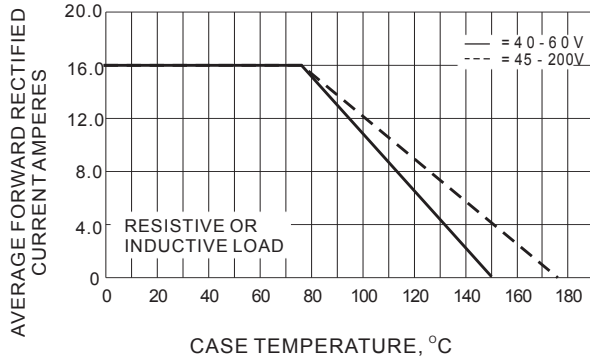


Fig.1- FORWARD CURRENT DERATING CURVE

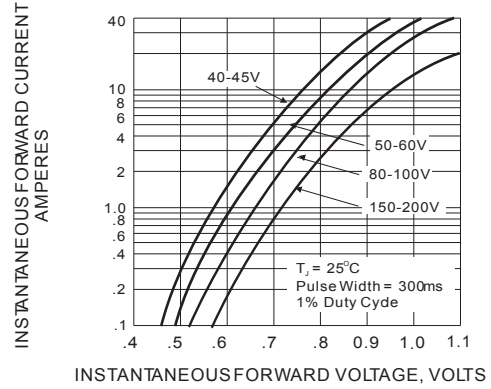


Fig.2- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

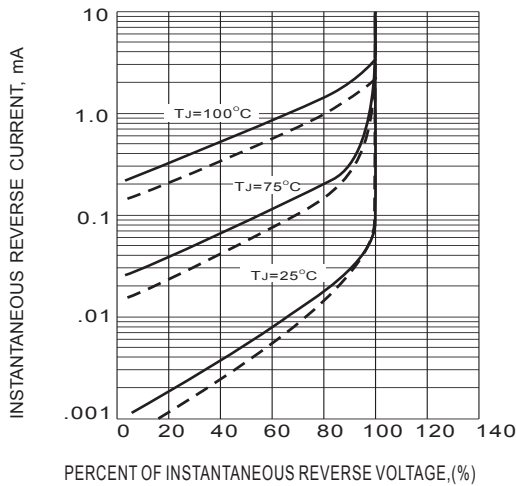


Fig.3- TYPICAL REVERSE CHARACTERISTICS

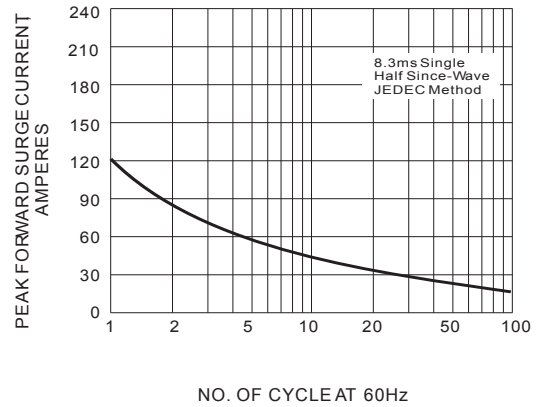


Fig.4- MAXIMUM NON-REPETITIVE SURGE CURRENT