



## MASTER INSTRUMENT CORPORATION

**SINGLE-PHASE BRIDGE RECTIFIER**  
**KBPC8005 THRU KBPC810**  
**BR805 THRU BR810**

**VOLTAGE RANGE** 50 to 1000 Volts  
**CURRENT** 8.0 Amperes

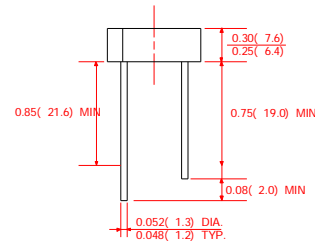
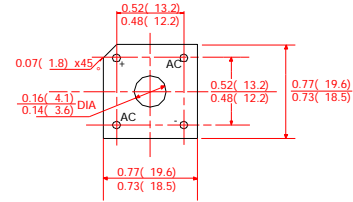
### FEATURES

- I Low cost
- I This series is UL recognized under component index, file number E127707
- I High forward surge current capability
- I Ideal for printed circuit board
- I High isolation voltage from case to leads
- I High temperature soldering guaranteed: 260°C/10 second, at 5 lbs. (2.3kg) tension.

### MECHANICAL DATA

- I Case: Molded plastic body
- I Terminal: Lead solderable per MIL-STD-202E method 208C.
- I Polarity: Polarity symbols molded on case
- I Mounting: Thru hole for #6 screw, 5.0 in.-lbs torque max.
- I Weight: 0.20ounce, 5.62 grams

**BR-10**



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.  
 Single phase, half wave, 60Hz, resistive or inductive load.  
 For capacitive load derate current by 20%.

|  | SYMBOLS                         | BR805<br>KBPC8005 | BR81<br>KBPC801 | BR82<br>KBPC802 | BR84<br>KBPC804 | BR86<br>KBPC806 | BR88<br>KBPC808 | BR810<br>KBPC810 | UNITS                     |
|--|---------------------------------|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|---------------------------|
| Maximum Repetitive Peak Reverse Voltage  | $V_{RRM}$                       | 50                | 100             | 200             | 400             | 600             | 800             | 1000             | Volts                     |
| Maximum RMS Voltage  | $V_{RMS}$                       | 35                | 70              | 140             | 280             | 420             | 560             | 700              | Volts                     |
| Maximum DC Blocking Voltage  | $V_{DC}$                        | 50                | 100             | 200             | 400             | 600             | 800             | 1000             | Volts                     |
| Maximum Average Forward Rectified Output Current, at   | $T_C=50^\circ\text{C}$ (Note1)  | 8.0               |                 |                 |                 |                 |                 |                  | Amps                      |
|  | $T_C=100^\circ\text{C}$ (Note1) | 6.0               |                 |                 |                 |                 |                 |                  |                           |
|  | $T_A=50^\circ\text{C}$ (Note2)  | 6.0               |                 |                 |                 |                 |                 |                  |                           |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$                       | 125               |                 |                 |                 |                 |                 |                  | Amps                      |
| Rating for Fusing ( $t < 8.3\text{ms}$ )   | $I^2t$                          | 64                |                 |                 |                 |                 |                 |                  | $\text{A}^2\text{S}$      |
| Maximum Instantaneous Forward Voltage at 4.0A  | $V_F$                           | 1.1               |                 |                 |                 |                 |                 |                  | Volts                     |
| Maximum DC Reverse Current at rated DC blocking voltage  | $T_A=25^\circ\text{C}$          | 5.0               |                 |                 |                 |                 |                 |                  | $\mu\text{Amps}$          |
|  | $T_A=150^\circ\text{C}$         | 1.0               |                 |                 |                 |                 |                 |                  | mAmps                     |
| Isolation Voltage from case to leads   | $V_{ISO}$                       | 2500              |                 |                 |                 |                 |                 |                  | $V_{AC}$                  |
| Typical Thermal Resistance (Note 1)  | $R_{\theta JC}$                 | 6.0               |                 |                 |                 |                 |                 |                  | $^\circ\text{C}/\text{W}$ |
| Operating Temperature Range  | $T_J$                           | -55 to +150       |                 |                 |                 |                 |                 |                  | $^\circ\text{C}$          |
| Storage Temperature Range  | $T_{STG}$                       | -55 to +150       |                 |                 |                 |                 |                 |                  | $^\circ\text{C}$          |

#### NOTES:

1. Unit mounted on 8.7"×8.7"×0.24" thick (22×22×0.6 cm) Al. plate.
2. Unit mounted on P.C.B at 0.375" (9.5mm) lead length with 0.47"×0.47" (12×12mm) copper pads.



## MASTER INSTRUMENT CORPORATION

**SINGLE-PHASE BRIDGE RECTIFIER**  
**KBPC8005 THRU KBPC810**  
**BR805 THRU BR810**

**VOLTAGE RANGE** 50 to 1000 Volts  
**CURRENT** 8.0 Amperes

### RATINGS AND CHARACTERISTIC CURVES BR805 THRU BR810

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

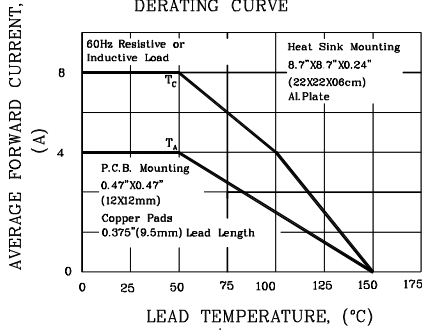


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

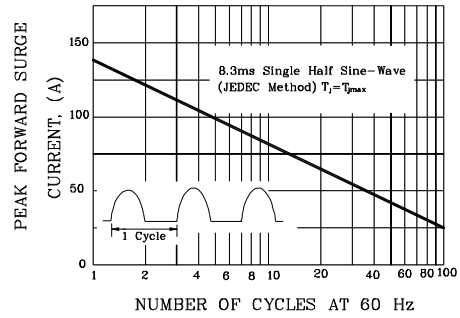


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

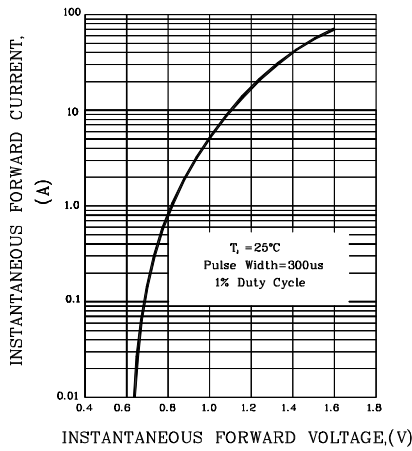


FIG.4-TYPICAL REVERSE CHARACTERISTICS

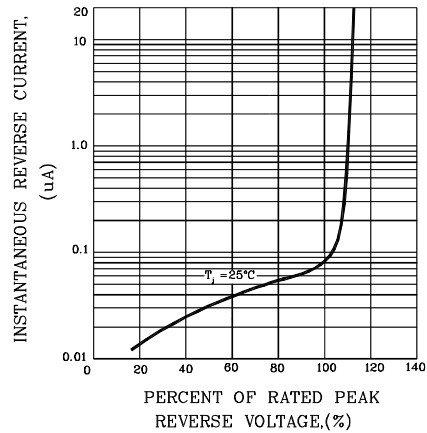


FIG.5-TYPICAL JUNCTION CAPACITANCE

