



## MASTER INSTRUMENT CORPORATION

### SINGLE-PHASE BRIDGE RECTIFIER MB3505 THRU MB3510 KBPC35005 THRU KBPC3510

VOLTAGE RANGE 50 to 1000 Volts  
CURRENT 35 Amperes

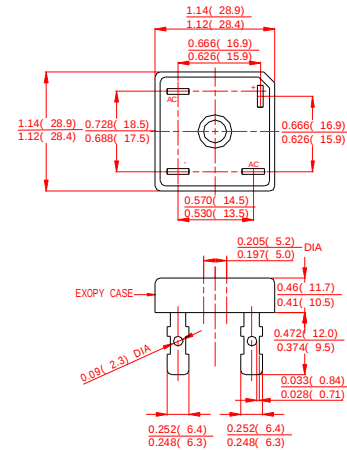
#### FEATURES

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

#### MECHANICAL DATA

- Case: Molded plastic body
- Terminal: Plated 0.25" (6.35mm) lug.
- Polarity: Polarity symbols marked on case
- Mounting: Thru hole for #10 screw, 20 in.-lbs torque max.
- Weight: 1.02 ounce, 29 grams

#### MB-35



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                          | MB3505<br>KBPC35005 | MB351<br>KBPC3501 | MB352<br>KBPC3502 | MB354<br>KBPC3504 | MB356<br>KBPC3506 | MB358<br>KBPC3508 | MB3510<br>KBPC3510 | 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 $T_C=50^\circ\text{C}$ (Note 1,2)           | $I_{(AV)}$                       | 35                  |                   |                   |                   |                   |                   |                    | Amps                      |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$                        | 400                 |                   |                   |                   |                   |                   |                    | Amps                      |
| Rating for Fusing ( $t < 8.3\text{ms}$ )                                                         | $I^2T$                           | 664                 |                   |                   |                   |                   |                   |                    | $\text{A}^2\text{S}$      |
| Maximum Instantaneous Forward Voltage at 17.5A                                                   | $V_F$                            | 1.1                 |                   |                   |                   |                   |                   |                    | Volts                     |
| Maximum DC Reverse Current at rated DC blocking voltage                                          | $I_R$ at $T_A=25^\circ\text{C}$  | 10                  |                   |                   |                   |                   |                   |                    | $\mu\text{Amps}$          |
|                                                                                                  | $I_R$ at $T_A=125^\circ\text{C}$ | 1.0                 |                   |                   |                   |                   |                   |                    | mAmps                     |
| Isolation Voltage from case to lugs                                                              | $V_{ISO}$                        | 2500                |                   |                   |                   |                   |                   |                    | $V_{AC}$                  |
| Typical Thermal Resistance (Note 1,2)                                                            | $R_{\theta JC}$                  | 2.0                 |                   |                   |                   |                   |                   |                    | $^\circ\text{C}/\text{W}$ |
| Operating Temperature Range                                                                      | $T_J$                            | -55 to +150         |                   |                   |                   |                   |                   |                    | $^\circ\text{C}$          |
| Storage Temperature Range                                                                        | $T_{STG}$                        | -55 to +150         |                   |                   |                   |                   |                   |                    | $^\circ\text{C}$          |

#### NOTES:

- Unit mounted on 9"×3.5"×4.6" (23×9×11.8mm) Al. finned plate.
- Bolt down on heat-sink with silicone thermal compound between bridge and mounting surface for maximum heat transfer efficiency with #10 screw.



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### RATINGS AND CHARACTERISTIC CURVES MB3505 THRU MB3510

FIG.1-TYPICAL FORWARD CURRENT

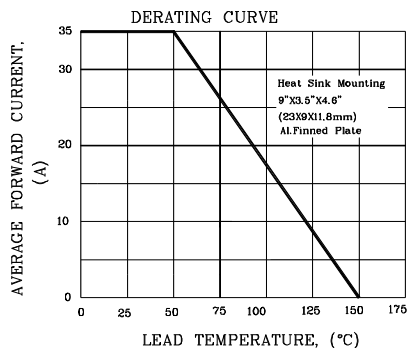


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

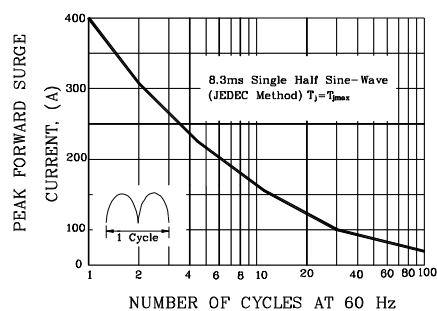


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

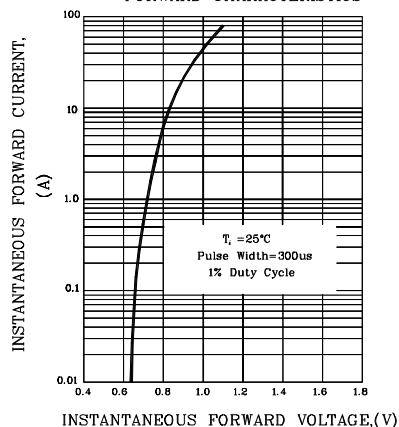


FIG.4-TYPICAL REVERSE CHARACTERISTICS

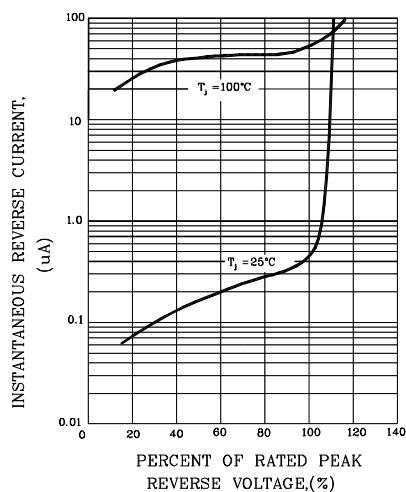


FIG.5-TYPICAL JUNCTION CAPACITANCE

