



## KBPC25005-KBPC2510

## SINGLE-PHASE SILICON BRIDGE RECTIFIER

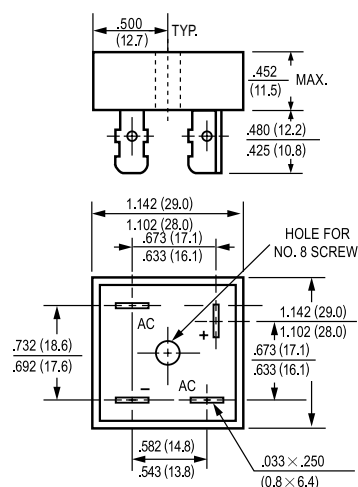
VOLTAGE RANGE - 50 TO 1000 Volts CURRENT - 25 Amperes

### MECHANICAL DATA

- \* Case: Metal, electrically isolated
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Terminals: Plated .25"(6.35mm) Faston luge, solderable per MIL-STD-202E, Method 208 guaranteed
- \* Polarity: As marked
- \* Mounting position: Any
- \* Weight: 30 grams

### FEATURES

- \* Metal case for Maximum Heat Dissipation
- \* Surge overload ratings-400 Amperes
- \* Low forward voltage drop



MB-25



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive load.

For capacitive load, derate current by 20%

| PARAMETER                                                                                         |                         | SYMBOL                           | KBPC25005<br>MB2505 | KBPC2501<br>MB251 | KBPC2502<br>MB252 | KBPC2504<br>MB254 | KBPC2506<br>MB256 | KBPC2508<br>MB258 | KBPC2510<br>MB2510 | UNITS              |
|---------------------------------------------------------------------------------------------------|-------------------------|----------------------------------|---------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|--------------------|
| Maximum Recurrent Peak Reverse Voltage                                                            |                         | V <sub>RRM</sub>                 | 50                  | 100               | 200               | 400               | 600               | 800               | 1000               | Volts              |
| Maximum RMS Bridge Input Voltage                                                                  |                         | V <sub>RMS</sub>                 | 35                  | 70                | 140               | 280               | 420               | 560               | 700                | Volts              |
| Maximum DC Blocking Voltage                                                                       |                         | V <sub>DC</sub>                  | 50                  | 100               | 200               | 400               | 600               | 800               | 1000               | Volts              |
| Maximum Average Forward Rectified Current at T <sub>C</sub> = 55°C                                |                         | I <sub>O</sub>                   | 25                  |                   |                   |                   |                   |                   |                    | Amps               |
| Peak Forward Surge Current 8.3 ms single half sine-wave Superimposed on rated load (JEDEC Method) |                         | I <sub>FSM</sub>                 | 400                 |                   |                   |                   |                   |                   |                    | Amps               |
| Maximum Forward Voltage Drop per element at 12.5A DC                                              |                         | V <sub>F</sub>                   | 1.1                 |                   |                   |                   |                   |                   |                    | Volts              |
| Maximum DC Reverse Current at Rated DC Blocking Voltage                                           | @T <sub>A</sub> = 25°C  | I <sub>R</sub>                   | 10                  |                   |                   |                   |                   |                   |                    | uAmps              |
|                                                                                                   | @T <sub>A</sub> = 100°C |                                  | 500                 |                   |                   |                   |                   |                   |                    |                    |
| I <sup>2</sup> t Rating for Fusing (t < 8.3ms)                                                    |                         | I <sup>2</sup> t                 | 374                 |                   |                   |                   |                   |                   |                    | A <sup>2</sup> Sec |
| Typical Junction Capacitance ( Note 1 )                                                           |                         | C <sub>J</sub>                   | 300                 |                   |                   |                   |                   |                   |                    | pF                 |
| Typical Thermal Resistance ( Note 2 )                                                             |                         | R θ <sub>Jc</sub>                | 2.5                 |                   |                   |                   |                   |                   |                    | °C/W               |
| Operating and Storage Temperature Range                                                           |                         | T <sub>J</sub> ,T <sub>STG</sub> | -55 to +150         |                   |                   |                   |                   |                   |                    | °C                 |

Notes: 1.Measured at 1 MHz and applied reverse voltage of 4.0 volts  
2.Thermal Resistance from Junction to Case per leg.



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### RATING AND CHARACTERISTICS CURVES

FIG. 1 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

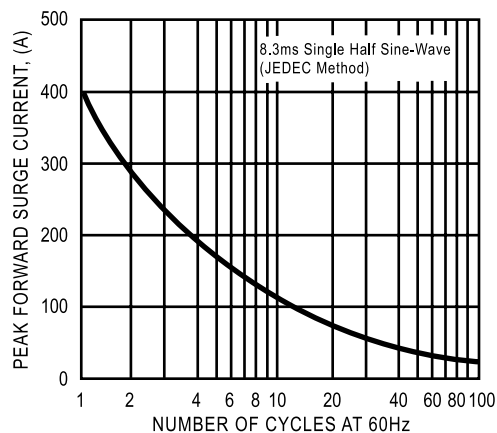


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

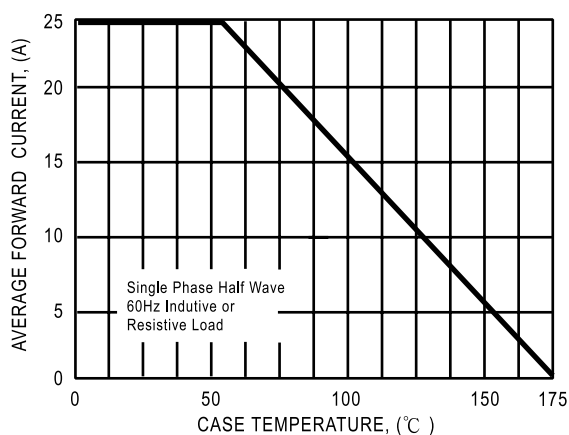


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

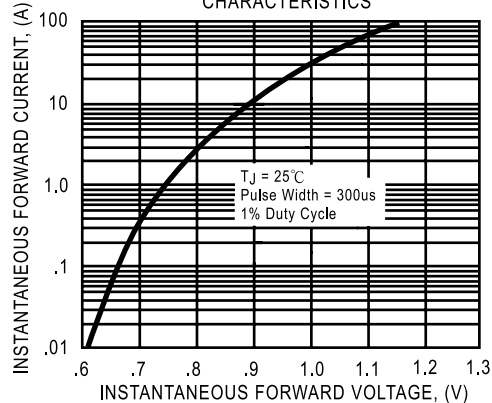


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

