



DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

KBPC / MB
25005 / 2505
THRU
KBPC / MB
2510 / 2510

TECHNICAL SPECIFICATIONS OF SINGLE-PHASE SILICON BRIDGE RECTIFIER

VOLTAGE RANGE - 50 to 1000 Volts

CURRENT - 25 Amperes

FEATURES

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

MECHANICAL DATA

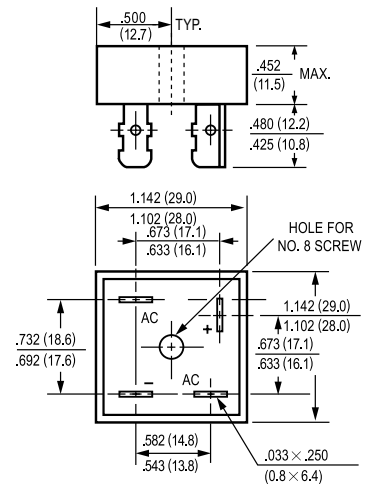
- * Case: Metal, electrically isolated
- * Epoxy: UL 94V-0 rate flame retardant
- * Terminals: Plated .25"(6.35mm) Faston lugs, solderable per MIL-STD-202E, Method 208 guaranteed
- * Polarity: As marked
- * Mounting position: Any
- * Weight: 30 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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



MB-25



Dimensions in inches and (millimeters)

| | SYMBOL | KBPC 25005 | KBPC 2501 | KBPC 2502 | KBPC 2504 | KBPC 2506 | KBPC 2508 | KBPC 2510 | UNITS | |
|---|----------------------------------|------------|-----------|-----------|-----------|--------------|-----------|-----------|-------|--------------------|
| Maximum Recurrent Peak Reverse Voltage | V _{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts | |
| Maximum RMS Bridge Input 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 = 55°C | I _O | | | | | 25 | | | | Amps |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) | I _{FSM} | | | | | 400 | | | | Amps |
| Maximum Forward Voltage Drop per element at 12.5A DC | V _F | | | | | 1.1 | | | | Volts |
| Maximum DC Reverse Current at Rated | I _R | | | | | 10 | | | | uAmps |
| DC Blocking Voltage per element | | | | | | 500 | | | | |
| I ² t Rating for Fusing (t<8.3ms) | I ² t | | | | | 374 | | | | A ² Sec |
| Typical Junction Capacitance (Note1) | C _J | | | | | 300 | | | | pF |
| Typical Thermal Resistance (Note 2) | R _{θJC} | | | | | 2.5 | | | | °C/W |
| Operating and Storage Temperature Range | T _J ,T _{STG} | | | | | -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.

RATING AND CHARACTERISTIC CURVES

(KBPC25005 MB2505 THRU KBPC2510 MB2510)

FIG. 1 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

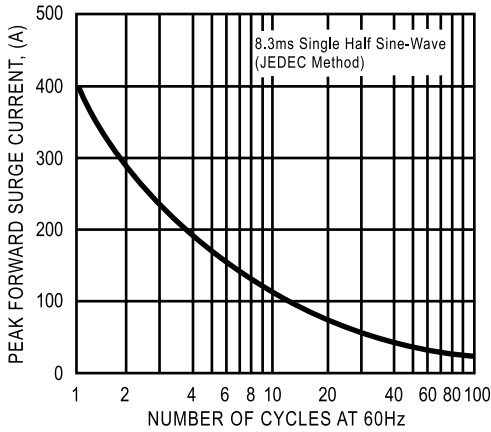


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

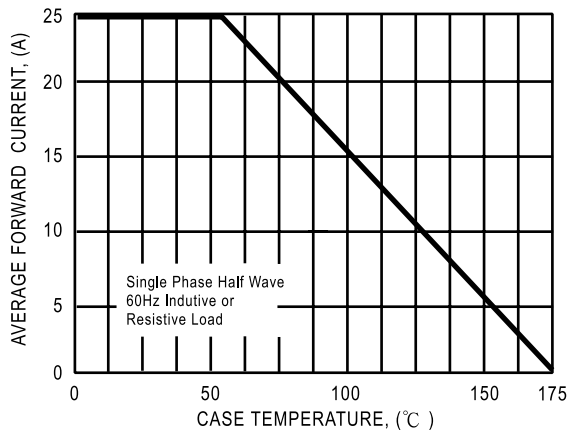


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

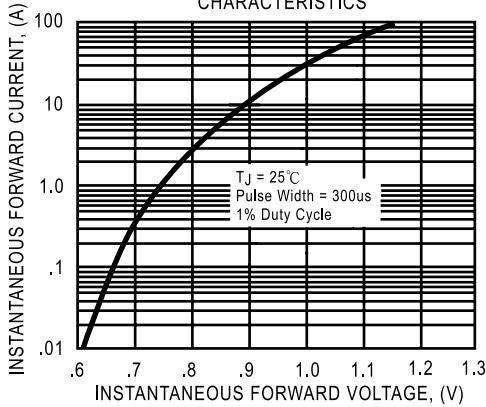
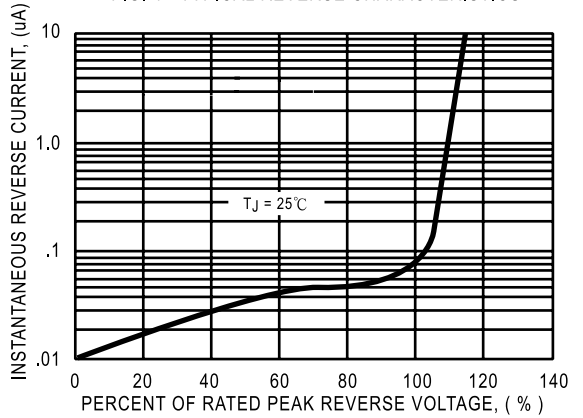


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS





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MECHANICAL DATA

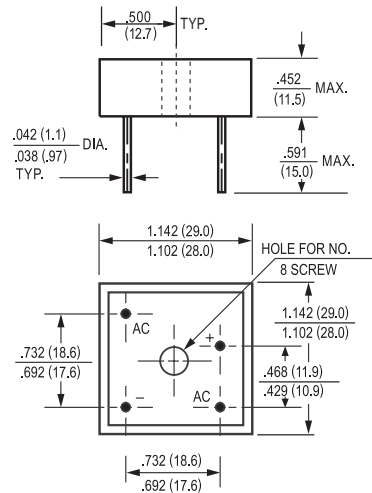
- * Case: Metal, electrically isolated
- * Epoxy: UL 94V-0 rate flame retardant
- * Lead: MIL-STD-202E, Method 208 guaranteed
- * Polarity: As marked
- * Mounting position: Any
- * Weight: 30 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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



MB-25W



Dimensions in inches and (millimeters)

| | | KBPC 25005W | KBPC 2501W | KBPC 2502W | KBPC 2504W | KBPC 2506W | KBPC 2508W | KBPC 2510W | |
|---|----------------------------------|-------------------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------------|
| | SYMBOL | MB2505W | MB251W | MB252W | MB254W | MB256W | MB258W | MB2510W | UNITS |
| Maximum Recurrent Peak Reverse Voltage | V _{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum RMS Bridge Input 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 = 55°C | I _O | 25 | | | | | | | Amps |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) | I _{FSM} | 400 | | | | | | | Amps |
| Maximum Forward Voltage Drop per element at 12.5A DC | V _F | 1.1 | | | | | | | Volts |
| Maximum DC Reverse Current at Rated | I _R | @T _A = 25°C | | | | | | 10 | uAmps |
| DC Blocking Voltage per element | | @T _A = 100°C | | | | | | 500 | |
| I ² t Rating for Fusing (t<8.3ms) | I ² t | 374 | | | | | | | A ² Sec |
| Typical Junction Capacitance (Note1) | C _J | 300 | | | | | | | pF |
| Typical Thermal Resistance (Note 2) | R _{θJC} | 2.5 | | | | | | | °C/W |
| Operating and Storage Temperature Range | T _J ,T _{STG} | -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.

RATING AND CHARACTERISTIC CURVES (KBPC25005W MB2505W THRU KBPC2510W MB2510W)

FIG. 1 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

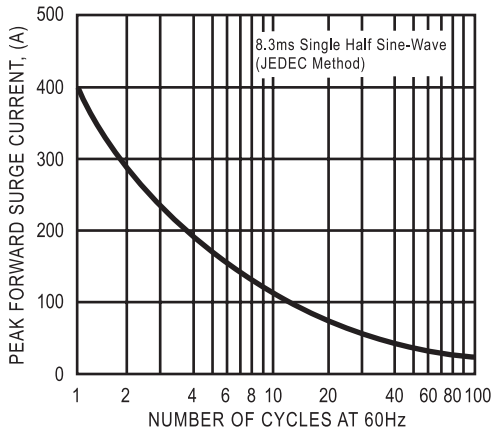


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

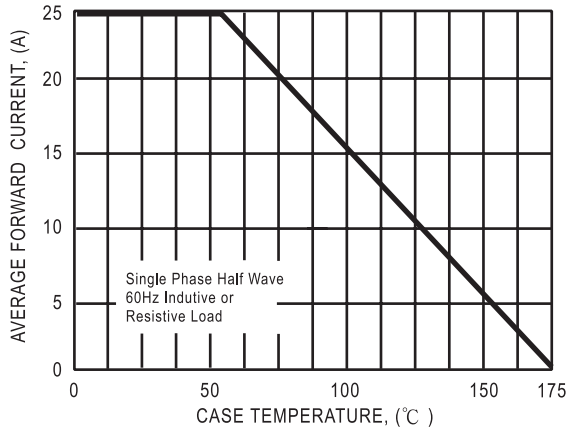


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

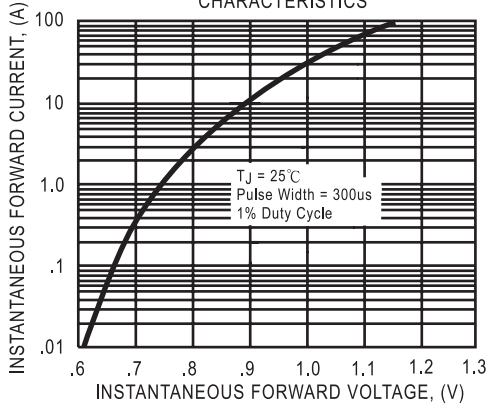


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

