

# Kingtronics®

## KBPC25005 THRU KBPC2510

**SINGLE-PHASE BRIDGE RECTIFIER**  
**VOLTAGE RANGE** 50 to 1000 Volts    **CURRENT** 25.0 Ampere

### FEATURES

High forward surge current capability.  
 Low thermal resistance.  
 High isolation voltage from case to lugs.  
 High temperature soldering guaranteed:  
 260°C/10 second, at 5 lbs. (2.3kg) tension.

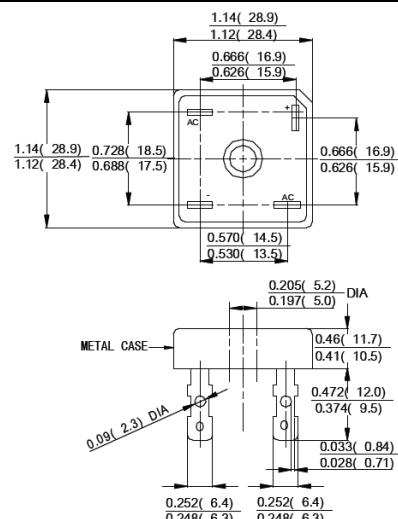
### MECHANICAL DATA

Case: Metal case.  
 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, 29gram.

### 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%**

**Dimensions in inches and (millimeters)**



| PARAMETER                                                                                        | SYMBOL                  | KBPC<br>25005 | KBPC<br>2501 | KBPC<br>2502 | KBPC<br>2504 | KBPC<br>2506 | KBPC<br>2508 | KBPC<br>2510 | UNIT               |
|--------------------------------------------------------------------------------------------------|-------------------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------------|
| 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 $T_C=50^\circ\text{C}$ (Note1,2)             | $I_{(AV)}$              | 25            |              |              |              |              |              |              | Amps               |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$               | 300           |              |              |              |              |              |              | Amps               |
| Rating for Fusing ( $t < 8.3\text{ms}$ )                                                         | $I_2T$                  | 373           |              |              |              |              |              |              | $A^2s$             |
| Maximum Instantaneous Forward Voltage at 12.5A                                                   | $V_F$                   | 1.1           |              |              |              |              |              |              | Volts              |
| Maximum Reverse Current at Rated DC Blocking Voltage                                             | $T_A=25^\circ\text{C}$  | 5.0           |              |              |              |              |              |              | $\mu\text{Amps}$   |
|                                                                                                  | $T_A=125^\circ\text{C}$ | 0.5           |              |              |              |              |              |              | mAmps              |
| Isolation Voltage from case to lugs                                                              | $V_{ISO}$               | 2500          |              |              |              |              |              |              | $V_{AC}$           |
| Typical Thermal Resistance (Note 1,2)                                                            | $R_{\theta JL}$         | 2.0           |              |              |              |              |              |              | $^\circ\text{C/W}$ |
| Operating Temperature Range                                                                      | $T_J$                   | -65 to +150   |              |              |              |              |              |              | $^\circ\text{C}$   |
| Storage Temperature Range                                                                        | $T_{stg}$               | -65 to +150   |              |              |              |              |              |              | $^\circ\text{C}$   |

- Unit mounted on 9"×3.5"×4.6" thick (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

FIG.1-DERATING CURVE FOR  
OUTPUT RECTIFIED CURRENT

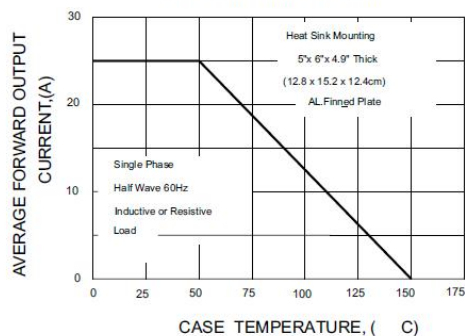


FIG.2-MAXIMUM NON-REPETITIVE PEAK  
FORWARD SURGE CURRENT PER ELEMENT

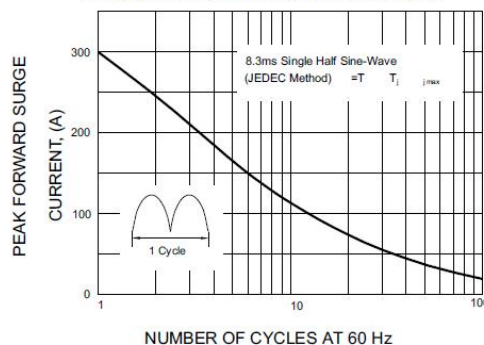


FIG.3-TYPICAL FORWARD CHARACTERISTICS  
PER BRIDGE ELEMENT

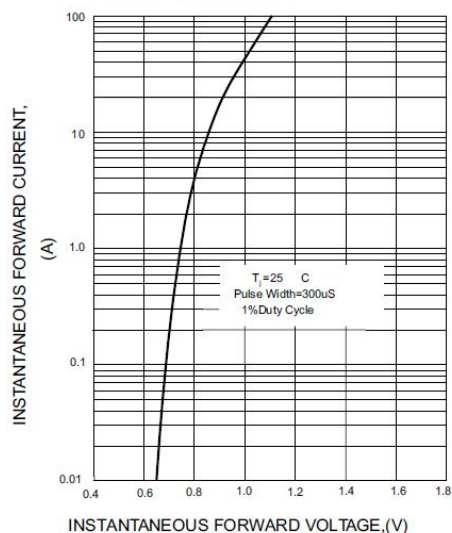


FIG.4-TYPICAL REVERSE CHARACTERISTICS  
PER BRIDGE ELEMENT

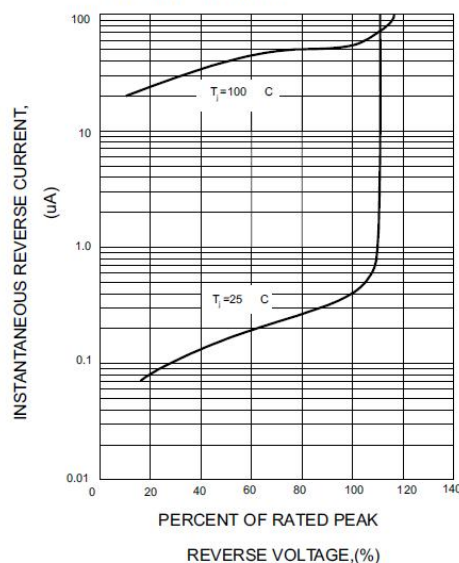


FIG.5-TYPICAL JUNCTION CAPACITANCE  
PER BRIDGE ELEMENT

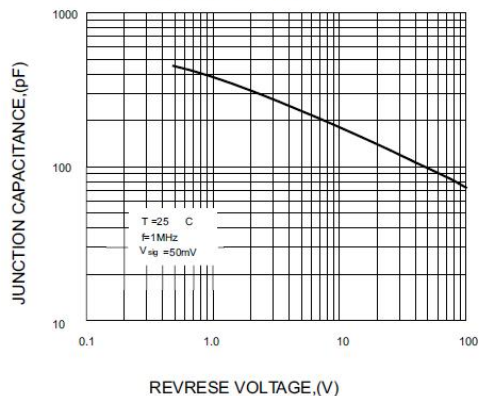
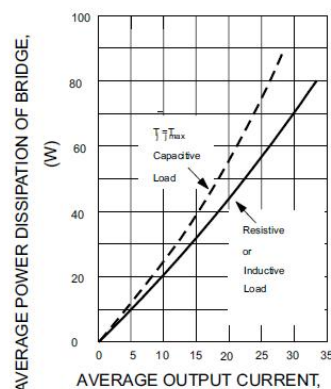


FIG.6-MAXIMUM POWER DISSIPATION



Note: Specifications are subject to change without notice.

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