



## MASTER INSTRUMENT CORPORATION

**SINGLE-PHASE BRIDGE RECTIFIER  
KBPC2505N THRU KBPC2510N**

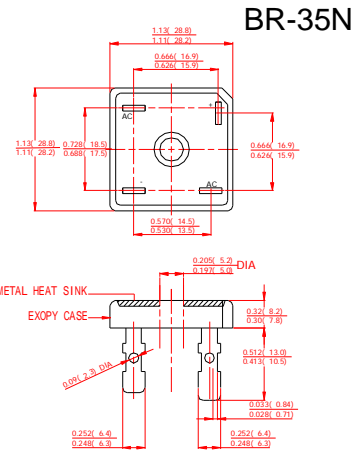
**VOLTAGE RANGE 50 to 1000 Volts  
CURRENT 25 Amperes**

**FEATURES**

- l Low cost
- l This series is UL recognized under component index, file number E127707
- l High forward surge current capability
- l Integrally molded heatsink provide very low thermal resistance
- l High isolation voltage from case to lugs
- l High temperature soldering guaranteed: 260°C/10 second, at 5 lbs. (2.3kg) tension.

**MECHANICAL DATA**

- l Case: Molded plastic body
- l Terminal: Lead solderable per MIL-STD-202E method 208C.
- l Polarity: Polarity symbols molded on case
- l Mounting: Thru hole for #6 screw, 5.0 in.-lbs torque max.
- l Weight: 0.55ounce, 15.6 grams



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	KBPC 25005N	KBPC 2501N	KBPC 2502N	KBPC 2504N	KBPC 2506N	KBPC 2508N	KBPC 2510N	UNITS	
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	Volts	
Maximum RMS 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 Output Current, at T <sub>C</sub> =50°C (Note 1, 2)	I <sub>(AV)</sub>	25							Amps	
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	300							Amps	
Rating for Fusing (t<8.3ms)	I <sup>2</sup> T	373							A <sup>2</sup> S	
Maximum Instantaneous Forward Voltage at 12.5A	V <sub>F</sub>	1.1							Volts	
Maximum DC Reverse Current at rated DC blocking voltage	I <sub>R</sub>	T <sub>A</sub> =25°C	10							μAmps
		T <sub>A</sub> =150°C	1.0							mAmps
Isolation Voltage from case to leads	V <sub>ISO</sub>	2500							V <sub>AC</sub>	
Typical Thermal Resistance (Note 1, 2)	R <sub>θJC</sub>	2.0							°C/W	
Operating Temperature Range	T <sub>J</sub>	-55 to +150							°C	
Storage Temperature Range	T <sub>STG</sub>	-55 to +150							°C	

**NOTES:**

1. Unit mounted on 5"×6"×4.9" thick (12.8mm×15.2mm×12.4mm) Al. plate.
2. 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 KBPC2505N THRU KBPC2510N

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

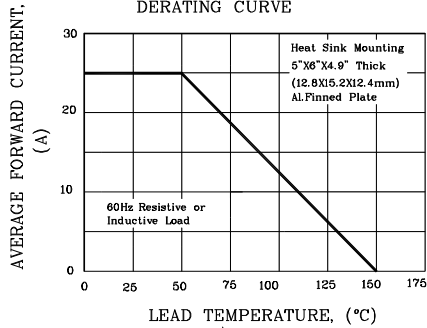


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

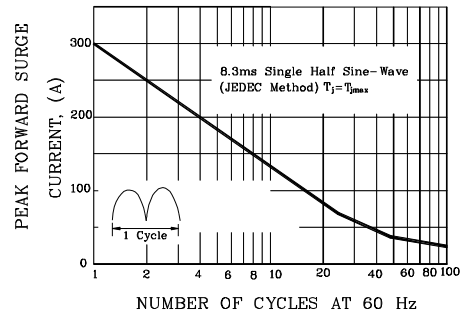


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

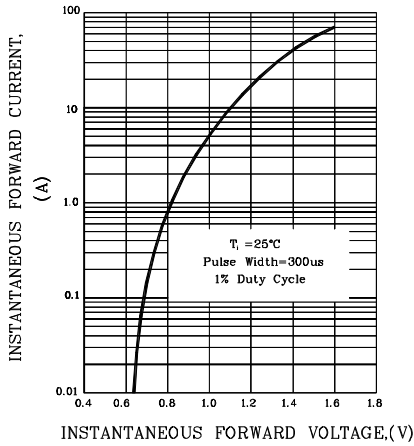


FIG.4-TYPICAL REVERSE CHARACTERISTICS

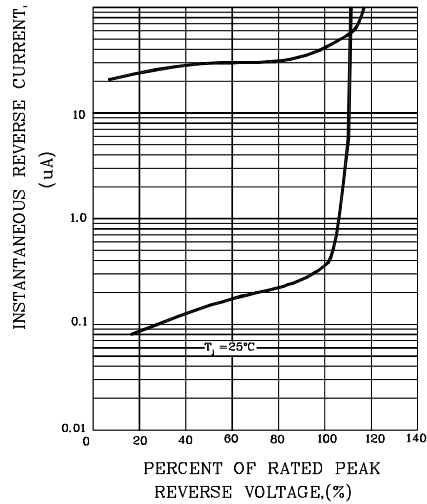


FIG.5-TYPICAL JUNCTION CAPACITANCE

