



MASTER INSTRUMENT CORPORATION

SINGLE-PHASE BRIDGE RECTIFIER KBPC1005 THRU KBPC1010 BR305 THRU BR310

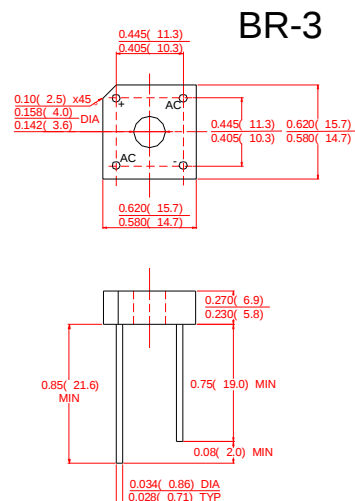
VOLTAGE RANGE 50 to 1000 Volts
CURRENT 3.0 Amperes

FEATURES

- Low cost construction
- 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: Lead solderable per MIL-STD-202E method 208C.
- Polarity: Polarity symbols molded on case
- Mounting: Thru hole for #6 screw, 5 in.-lbs torque max.
- Weight: 0.093ounce, 2.62 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	KBPC1005 BR305	KBPC101 BR31	KBPC102 BR32	KBPC104 BR34	KBPC106 BR36	KBPC108 BR38	KBPC1010 BR310	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 2) $T_A=25^\circ\text{C}$ (Note 2)	I_{AV}	3.0 2.0							Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	60							Amps
Rating for Fusing ($t < 8.3\text{ms}$)	I^2T	15							A^2S
Maximum Instantaneous Forward Voltage at 5.0A	V_F	1.0							Volts
Maximum DC Reverse Current at rated DC blocking voltage per element $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$	I_R	5.0 0.5							μAmps mAmps
Isolation Voltage from case to leads	V_{ISO}	2500							μAmps
Typical Junction Capacitance Resistance (Note 1)	C_J	20							$^\circ\text{C/W}$
Typical Thermal Resistance per element (Note 2)	$R_{\theta JA}$	12							$^\circ\text{C/W}$
Operating Temperature Range	T_J	-55 to +150							$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150							$^\circ\text{C}$

NOTES:

- Measured at 1.0 MHz and applied reverse voltage of 4.0 volts
- Unit mounted on 4.0"×4.0"×0.11" thick (10.5×10.5×0.3mm) Al. plate.
- Unit mounted on P.C.B at 0.375" (9.5mm) lead length with 0.5"×0.5" (12×12mm) copper pads.



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BR305 THRU BR310

VOLTAGE RANGE 50 to 1000 Volts
CURRENT 3.0 Amperes

RATINGS AND CHARACTERISTIC CURVES KBPC1005 THRU KBPC110 BR305 THRU BR310

FIG.1-DERATING CURVE FOR
OUTPUT DERTAINING CURVE

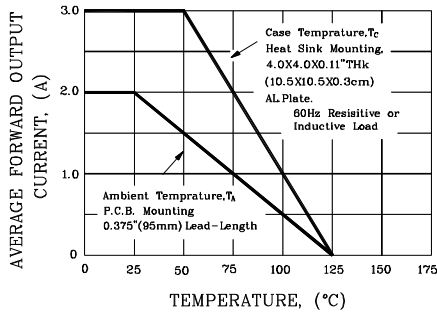


FIG.2-MAXIMUM NON-REPETITIVE PEAK
FORWARD SURGE CURRENT PER ELEMENT

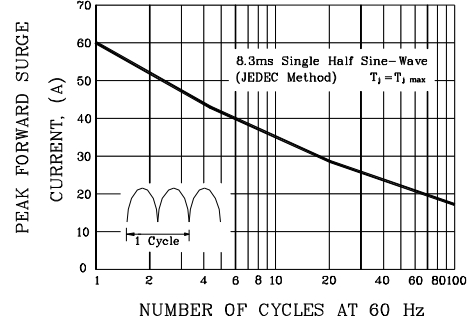


FIG.3-TYPICAL FORWARD CHARACTERISTICS
PER BRIDGE ELEMENT

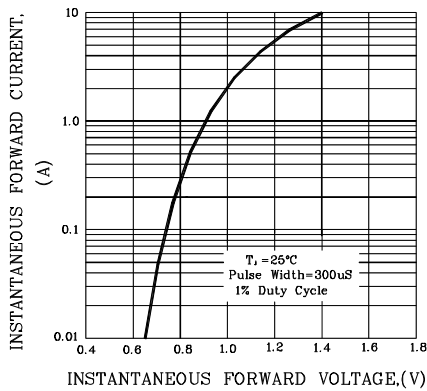


FIG.4-TYPICAL REVERSE CHARACTERISTICS
PER BRIDGE ELEMENT

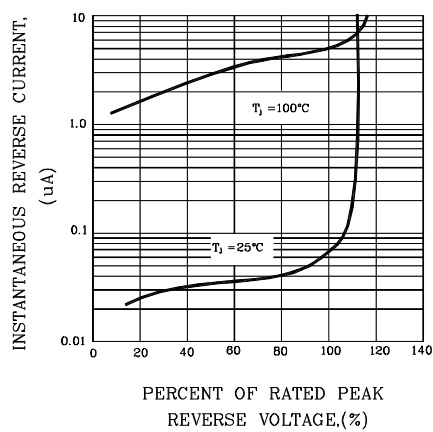


FIG.5-TYPICAL JUNCTION CAPACITANCE
PER BRIDGE ELEMENT

