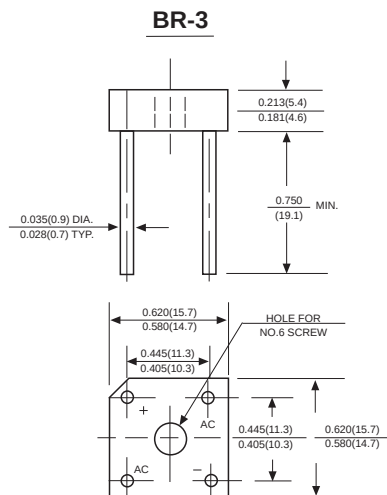


KBPC1005 THRU KBPC110 AND BR305 THRU BR310

SILICON BRIDGE RECTIFIERS

Reverse Voltage - 50 to 1000 Volts Forward Current - 3.0 Amperes



Dimensions in inches and (millimeters)

FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Ideal for printed circuit boards
- ◆ Low reverse leakage
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 260°C/10 seconds, at 5 lbs. (2.3kg) tension

MECHANICAL DATA

Case: Molded plastic body

Terminals: Plated leads solderable per MIL-STD-750, Method 2026

Polarity: Polarity symbols marked on case

Mounting: Thru hole for #6 screw, 5in.-lbs. torque max.

Weight: 0.093 ounce, 2.62 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for current capacitive load derate by 20%.

	SYMBOLS	KBPC 1005 BR305	KBPC 101 BR31	KBPC 102 BR32	KBPC 104 BR34	KBPC 106 BR36	KBPC 108 BR38	KBPC 110 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 output rectified current at $T_A=50^\circ\text{C}$ (Note 2) $T_A=25^\circ\text{C}$ (Note 3)	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 drop per bridge element at 1.5A	V_F	1.0							Volts
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	I_R	10 0.5							μA mA
Typical Junction Capacitance (Note 1)	C_J	20							pF
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	12							$^\circ\text{C/W}$
Operating junction temperature range	T_J	-55 to +125							$^\circ\text{C}$
storage temperature range	T_{STG}	-55 to +150							$^\circ\text{C}$

NOTES:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts.

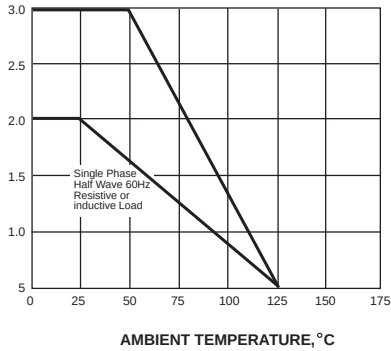
2. Unit mounted on 4.0 " x 4.0 " x 0.11 " thick (10.5x10.5x0.3cm) Al. plate.

3. Unit mounted on P.C. board with 0.5 " x 0.5 " (12x12mm) copper pads, 0.375 " (9.5mm) lead length.

RATINGS AND CHARACTERISTIC CURVES KBPC1005 THRU KBPC110 AND BR305 THRU BR310

AVERAGE FORWARD RECTIFIED CURRENT,
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT,
AMPERES

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

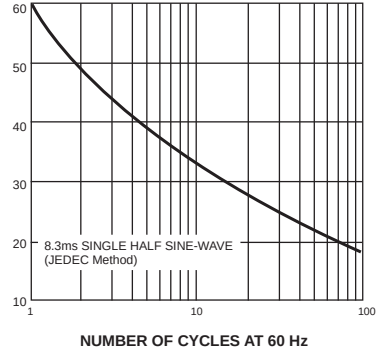


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

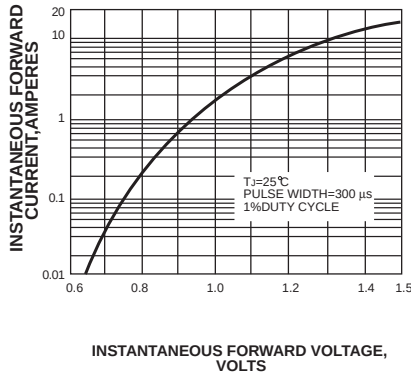


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

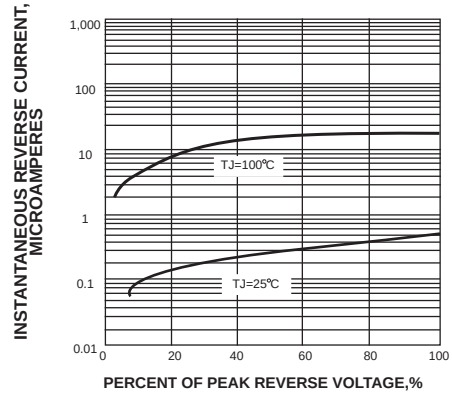
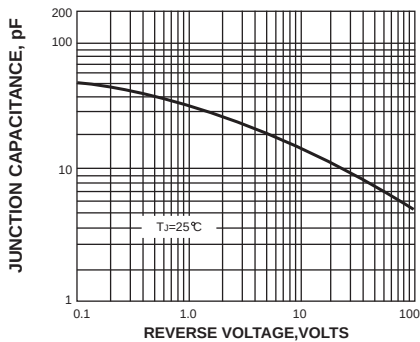


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

