

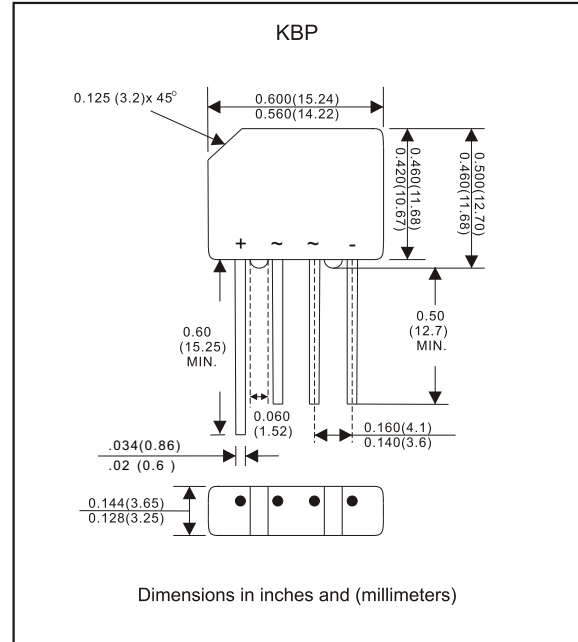
Features

- Ideal for printed circuit board.
- High forward surge current capability.
- Low reverse leakage, typical IR less than 0.5μA.
- General purpose use in AC-TO-AC bridge full wave rectification for switching power supply, home, office equipment and telecommunication applications.
- Glass passivated chip junction.
- Lead-free parts meet RoHS requirements.

Mechanical data

- Epoxy: UL94-V0 rated flame retardant
- Case : Molded plastic, KBP
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : marked on body
- Mounting Position : Any
- Weight : Approximated 1.70gram

Package outline



Maximum ratings (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	I_o			3.0	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC methode)	I_{FSM}			60.0	A
Reverse current	$V_R = V_{RRM} T_A = 25^{\circ}\text{C}$	I_R			5.0	uA
	$V_R = V_{RRM} T_A = 125^{\circ}\text{C}$				500	
Rating for fusing	$t < 8.3 \text{ ms}$	I^2t		15		A^2s
Typical Junction capacitance	Note1	C_J		25		pF
Typical thermal resistance per leg	Note2	$R_{\theta JC}$		11.0		$^{\circ}\text{C}/\text{W}$
		$R_{\theta JA}$		30.0		$^{\circ}\text{C}/\text{W}$
Storage temperature		T_{STG}	-65		+175	$^{\circ}\text{C}$

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

2. Thermal resistance from junction to ambient and from junction to lead mounted on P.B.C. with 0.47" X 0.47" (12x12mm) copper pads.

SYMBOLS	V_{RRM}^{*1} (V)	V_{RMS}^{*2} (V)	V_R^{*3} (V)	V_F^{*4} (V)	Operating temperature $T_J, (^{\circ}\text{C})$
KBP3005	50	35	50	1.10	-55 to +150
KBP301	100	70	100		
KBP302	200	140	200		
KBP304	400	280	400		
KBP306	600	420	600		
KBP308	800	560	800		
KBP310	1000	700	1000		

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage @3.0A

Rating and characteristic curves (KBP3005 THRU KBP310)

FIG. 1-OUTPUT RECTIFIED CURRENT DERATING CURVE

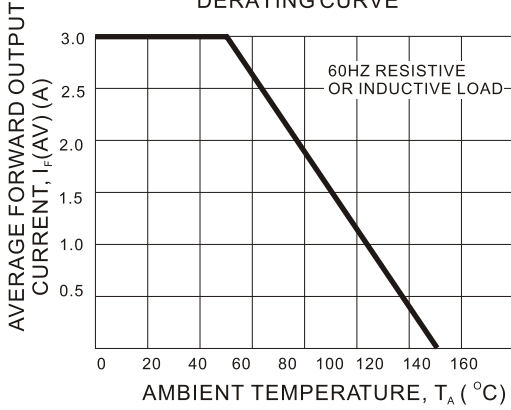


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

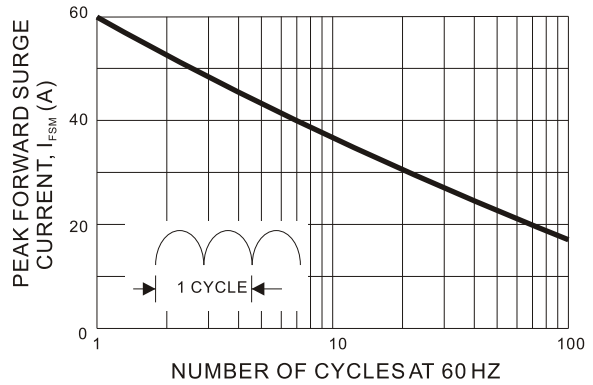


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS (PER LEG)

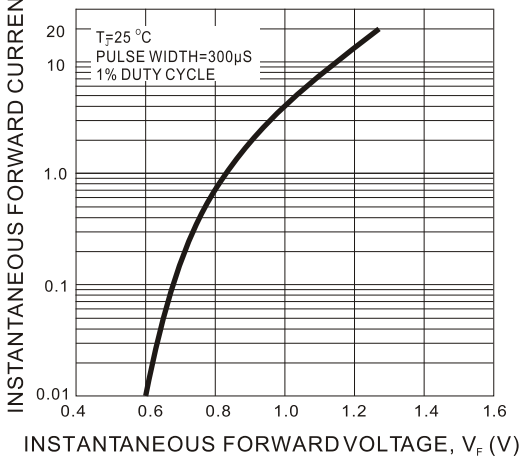
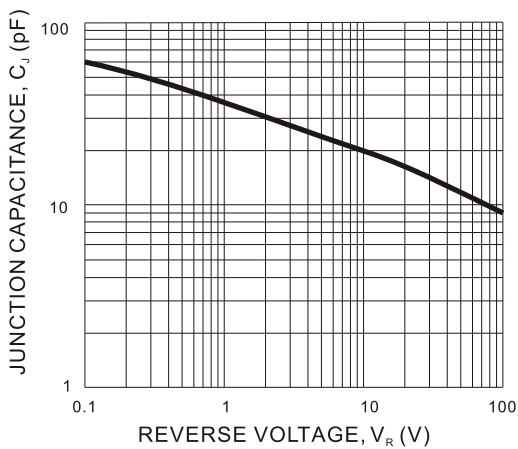
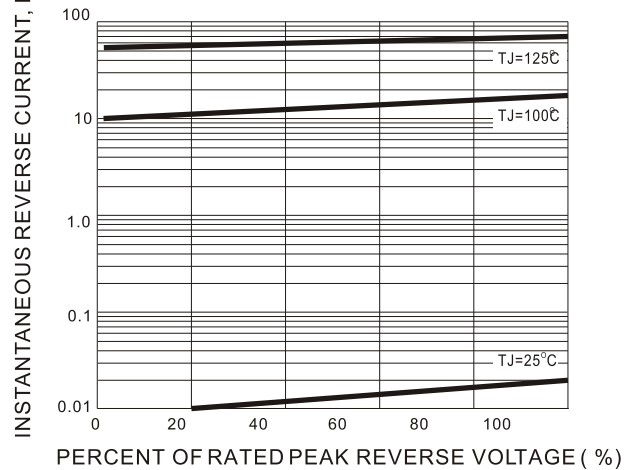


FIG. 4-TYPICAL REVERSE CHARACTERISTICS (PER LEG)



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