



KBP3005 THRU KBP310

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

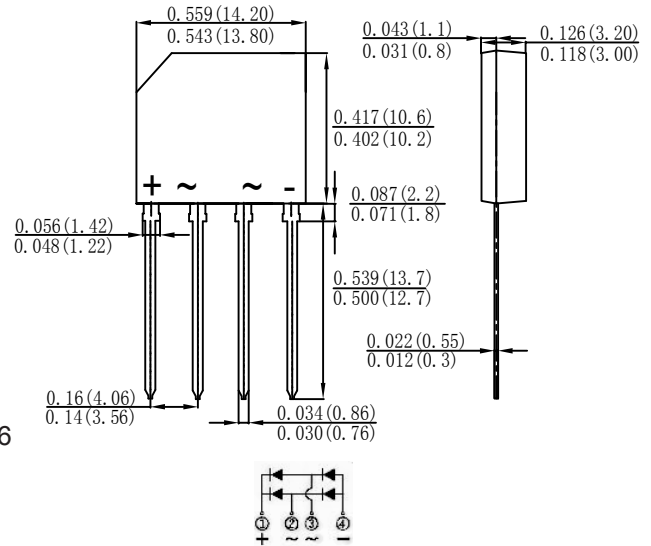
SINGLE BRIDGE RECTIFIERS

Features

- ◆ Glass Passivated Chip Junction
- ◆ 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

KBP

RoHS
COMPLIANT



Dimensions in inches and (millimeters)

Mechanical Data

Case : JEDEC KBP Molded plastic body
Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
Polarity : Polarity symbol marking on body
Mounting Position : Any
Weight : 0.050 ounce, 1.52 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 capacitive load current derate by 20%.

Parameter	SYMBOLS	MDD KBP3005	MDD KBP301	MDD KBP302	MDD KBP304	MDD KBP307	MDD KBP308	MDD KBP310	UNITS
Marking Code									
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward output rectified current at $T_c=100^\circ\text{C}$	$I_{(AV)}$	3.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	60							A
Maximum instantaneous forward voltage drop per bridge element at 3.0A	V_F	1.1							V
Maximum DC reverse current at rated DC blocking voltage	I_R	10							μA
$T_A=25^\circ\text{C}$ $T_A=125^\circ\text{C}$		1							mA
I^2t Rating for fusing ($3\text{ms} \leq t \leq 8.3\text{ms}$)	I^2t	14.91							A^2S
Typical Junction Capacitance per element (Note 1)	C_j	40							pF
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	55							$^\circ\text{C}/\text{W}$
	$R_{\theta JC}$	10							
	$R_{\theta JL}$	18							
Operating junction temperature range	T_J	-55 to +150							$^\circ\text{C}$
Storage temperature range	T_{STG}	-55 to +150							$^\circ\text{C}$

Note: (1) Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

(2) Thermal Resistance Junction to Case, Lead and Ambient.



Ratings And Characteristic Curves

Fig. 1 Derating Curve for Output Rectified Current

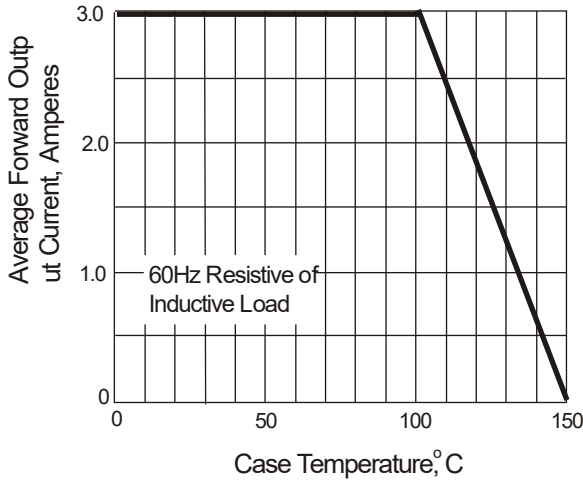


Fig. 2 Maximum Non-repetitive Peak Forward Surge Current

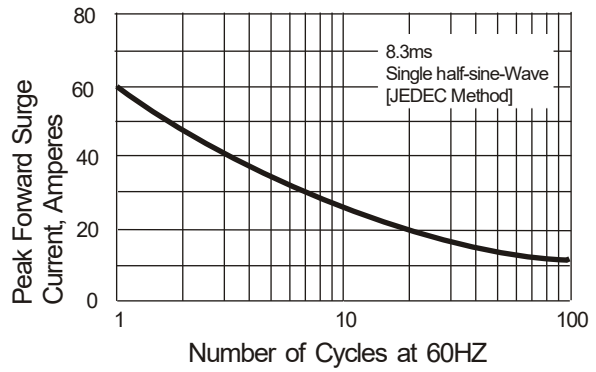


Fig. 3 Typical Instantaneous Forward Characteristics

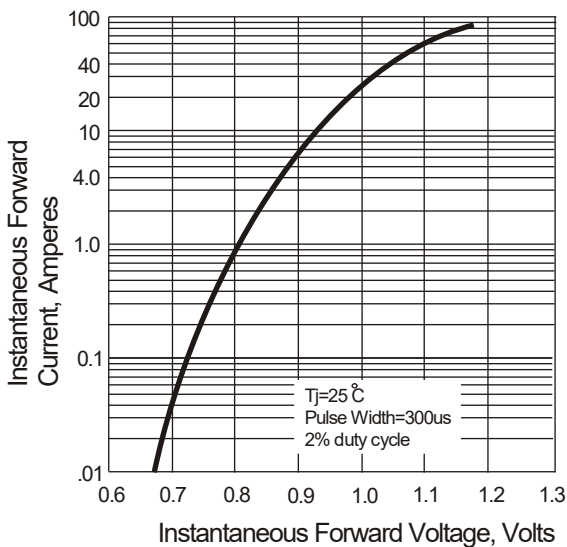


Fig. 4 Typical Reverse Characteristics

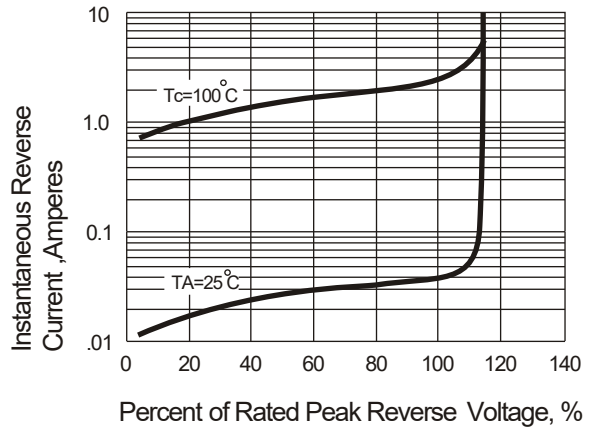
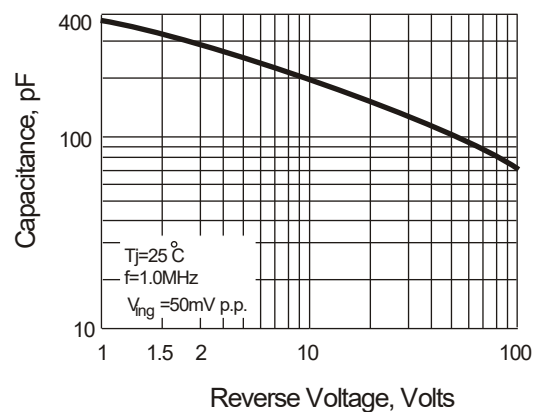


Fig. 5 Typical Junction Capacitance



The curve above is for reference only.