3.0A Single-Phase Bridge Rectifier

1 General Description

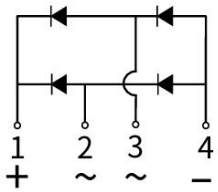
1.1 Features

- Ideal for printed circuit board mounting
- This series is UL listed under the Recognized Component Index, file number E142814
- The plastic material used carries Underwriters Laboratory flammability recognition 94V-0
- Built-in printed circuit board stand-offs
- High case dielectric strength
- High temperature soldering guaranteed 260 ℃ /5 seconds at 5 lbs (2.3kg) tension

REVERSE VOLTAGE
50-1000V
FORWARD CURRENT
3Ampere

1.2 Typical Applications

- General-purpose through-hole bridge rectifiers Rectification for SMPS, PD fast chargers, small household appliance control boards, and other bridge rectification applications.



1.3 Mechanical Data

- Case: Reliable low cost construction utilizing molded plastic technique
- Terminals: Plated leads solderable per MIL-STD-202, Method 208
- Mounting Position: Any

2 Maximum Ratings(TA=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	KBP3005	KBP301	KBP302	KBP304	KBP306	KBP308	KBP310	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Bridge Input 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 Rectified Output Current at T_A=40℃	$I_{F(AV)}$	3.0							A
Peak Forward Surge Current Single Half Sine-Wave Superimposed On Rated Load (JEDEC Method)	I_{FSM}	60							A
Operating Temperature Range	T_J	-55 to +150							℃
Storage Temperature Range	T_{STG}	-55 to +150							℃

Notes:1.Measured at 2.0MHz and applied reverse voltage of 4.0V DC.
2.Thermal resistance from Junction to Ambient on PC board mounting.
3.Resistive or Inductive load, 60 Hz.For Capacitive load derate by 20 %.

3 Electrical Characteristics(TA=25℃ Unless otherwise specified)

PARAMETER		SYMBOL	KBP3005	KBP301	KBP302	KBP304	KBP306	KBP308	KBP310	UNIT
Maximum instantaneous Forward Voltage drop per leg at 3.0A		V_F	1.1							V
Maximum DC Reverse Current at Rated DC Blocking Voltage	T_A=25℃	I_R	10							μA
	T_A=125℃		500							

4 Characteristics Curves(TA=25℃ Unless otherwise specified)

Fig. 1 Derating Curve for Output Rectified Current

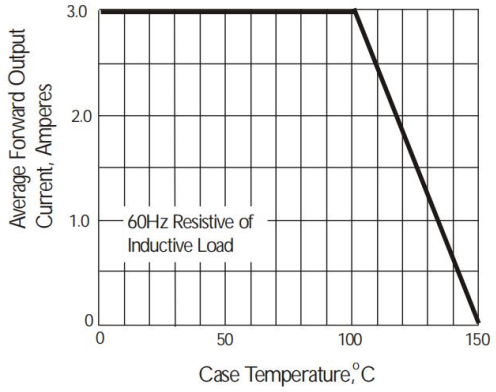


Fig. 2 Maximum Non-repetitive Peak Forward Surge Current

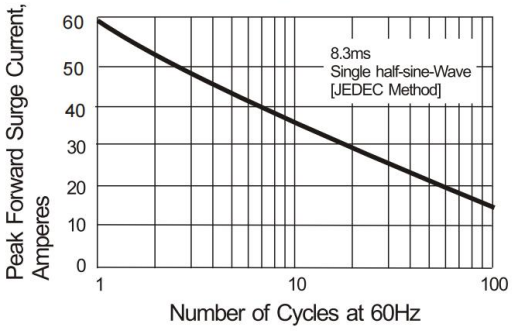


Fig. 3 Typical Instantaneous Forward Characteristics

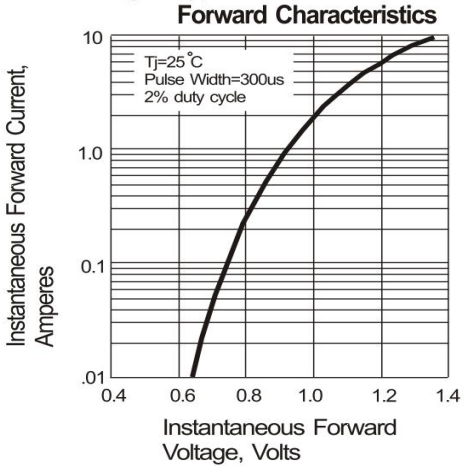


Fig. 4 Typical Reverse Characteristics

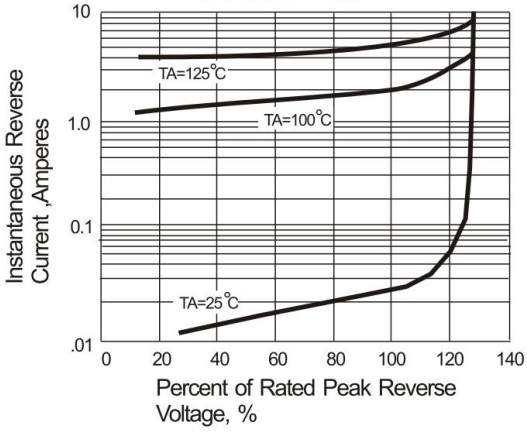
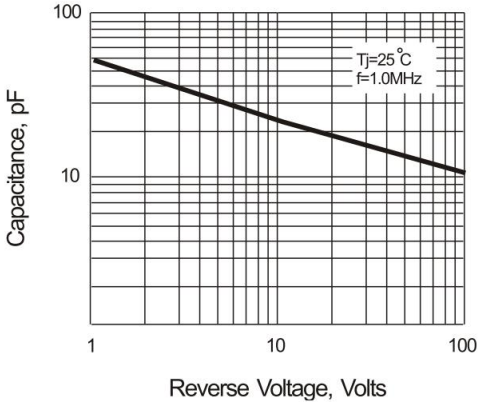
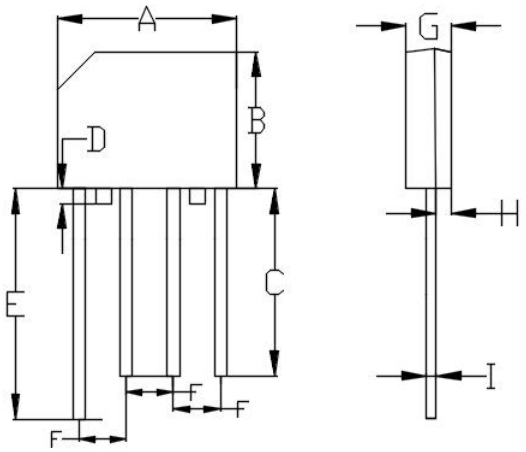


Fig. 5 Typical Junction Capacitance



5 Package Outline Dimensions



Symbol	UNIT(mm)	
	Min	Max
A	14.30	14.70
B	10.80	11.20
C	14.80	15.80
D	0.90	1.10
E	18.20	19.20
F	3.71	3.91
G	3.50	3.70
H	1.15	1.35
I	0.73	0.83

6 Ordering Information

PACKAGE	UNIT WEIGHT (g)	BOX (pcs)	CARTON (pcs)
KBP	Approximate 1.77	500	5000

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