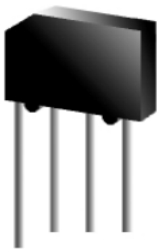
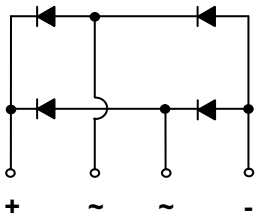
Single-Phase Bridge Rectifier in KBPM

Features

- Ideal for printed circuit boards
- High surge current capability
- Typical IR less than 0.1μA
- High case dielectric strength
- Glass passivated chip junction





Mechanical Data

- **Case:** GBL((plastic package). RoHS compliant;Halogen free
- **Molding Compound Flammability Rating:** UL 94 V-0
- **Terminals:** High temperature soldering guaranteed: 260 °C/10 sec. at terminals

Applications

- Audio equipment
- Monitor
- TV
- Printer
- SMPS
- Other AC/DC rectification application

Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

Parameter	Symbol	KBP302	KBP304	KBP306	KBP308	KBP310	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	200	400	600	800	1000	V
Maximum average forward output rectified current	$I_{F(AV)}$	3.0					A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	80					A
Rating for fusing (t < 8.3 ms)	I^2t	15					A^2s
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150					°C

Thermal Characteristics

Ratings at 25 °C, ambient temperature unless otherwise specified

Parameter	Symbol	KBP302	KBP304	KBP306	KBP308	KBP310	Unit
Typical thermal resistance (junction to ambient)	$R_{\theta JA}$ (1)	30					°C/W
Typical thermal resistance (junction to ambient)	$R_{\theta JA}$ (2)	11					°C/W
Typical thermal resistance (junction to lead)	$R_{\theta JL}$ (1)	20					°C/W

Electrical Characteristics

(T_A = 25 °C unless otherwise specified)

Parameter	Condition	Symbol	KBP302	KBP304	KBP306	KBP308	KBP310	Unit
Maximum instantaneous forward voltage per diode	I_F = 2.0 A	V_F	1.1					V
Maximum DC reverse current at rated DC blocking voltage per diode	T_A = 25 °C	I_R	5					μA
	T_A = 125 °C	I_R	500					μA
Typical junction capacitance per diode	4.0 V, 1 MHz	C_J	25					pF

Notes

(1) Device mounted P.C.B with 0.47*0.47"(12*12mm) Copper Pads.
(2) JEDEC registered values

Typical Characteristics (T_{amb} = 25 °C unless otherwise specified)

Fig.1 Derating Curve Output Rectified Current

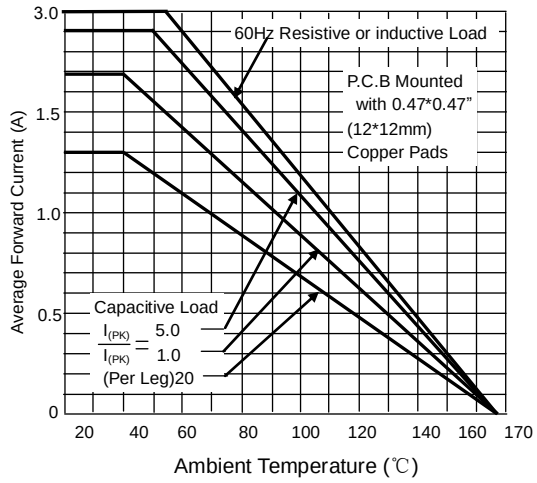


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current Per Diode

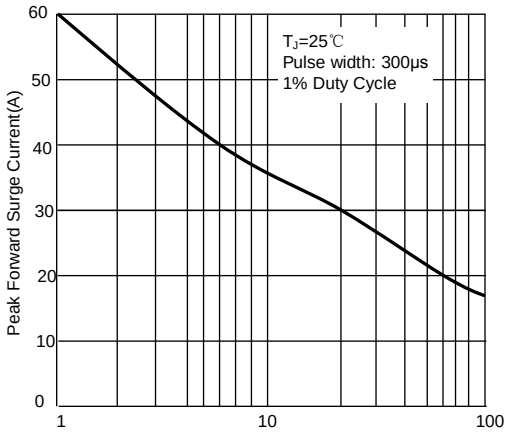


Fig.3 Typical Forwar Characteristics per Diode

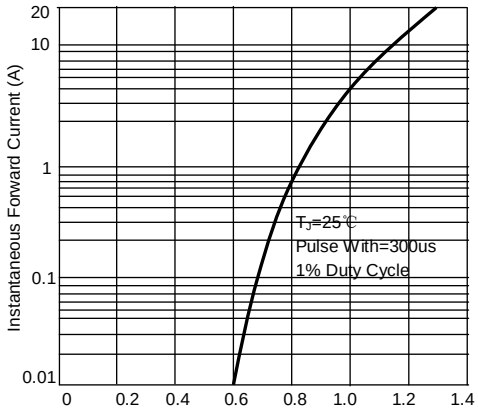


Fig.4 Maximum Reverse Leakage Characteristics Per Diode

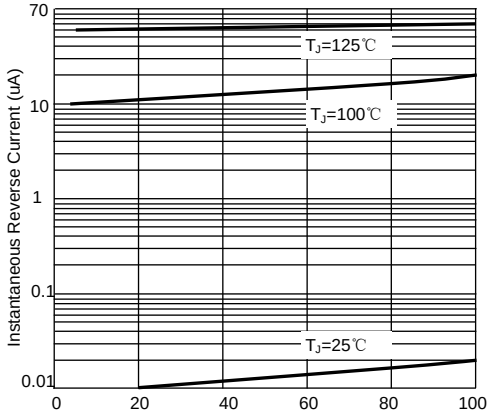
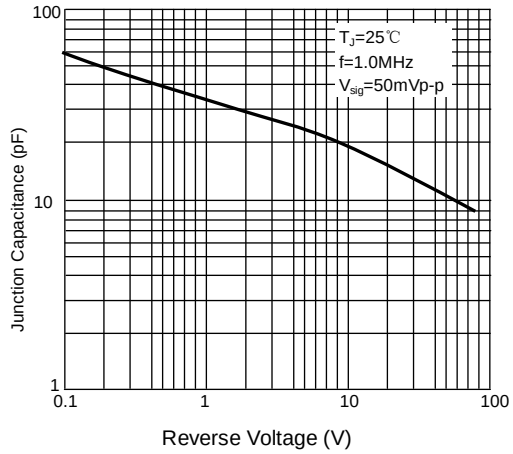
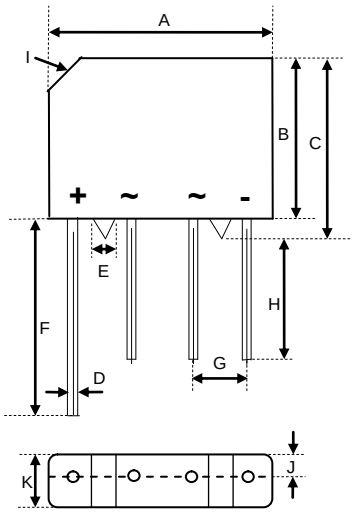


Fig.5 Typical Junction Capacitance Per Diode



Package Dimensions



Dimensions	Milimeters	
	Min	Max
A	14.22	15.24
B	10.67	11.68
C	11.68	12.70
D	0.71	0.81
E	1.52	
F	15.2	
G	3.60	4.10
H	12.70	
I	0.125×45°(3.2)	
J	2.16	2.67
K	4.57	5.08

Ordering information

Order code	Package	Packaging option	Base quantity	Packaging specification
KBP302 thru KBP310	KBPM	BOX	500pcs / BOX	EIA STD RS-481

Revision history

Date	Revision	Changes
15-March-2011	1.0	Initial release

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