4.0A Single-Phase Silicon Bridge Rectifier

1 General Description

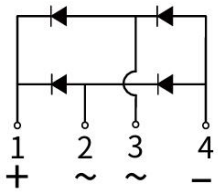
1.1 Features

- Ideal for printed circuit board mounting
- This series is UL listed under the Recognized Component Index, file number E484648
- 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
4Ampere

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	KBP4005	KB401	KBP402	KBP404	KBP406	KBP408	KBP410	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 Tc=100℃ (with heatsink)	$I_{F(AV)}$	4.0							A
Peak Forward Surge Current Single Sine-Wave Superimposed On Rated Load (JEDEC Method)	I_{FSM}	90							A
Rating for fusing (t<8.3ms)	I^2t	35							A^2sec
Operating Temperature Range	T_J	-55 to +150							℃
Storage Temperature Range	T_{STG}	-55 to +150							℃
Typical Thermal Resistance per element (Note1)(with heatsink)	$R_{\theta JA}$	55							℃/W

Notes:1.Thermal resistance from Junction to Ambient on PC board mounting.
2.Resistive or Inductive load, 60 Hz.For Capacitive load derate by 20 %.

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

PARAMETER		SYMBOL	KBP4005	KB401	KBP402	KBP404	KBP406	KBP408	KBP410	UNIT
Maximum instantaneous Forward Voltage drop per leg at 2.0A		V_F	1.1							V
Maximum DC Reverse Current at Rated DC Blocking Voltage	T_A=25℃	I_R	10							μA
	T_A=125℃		1000							

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

Fig. 1 Derating Curve for Output Rectified Current

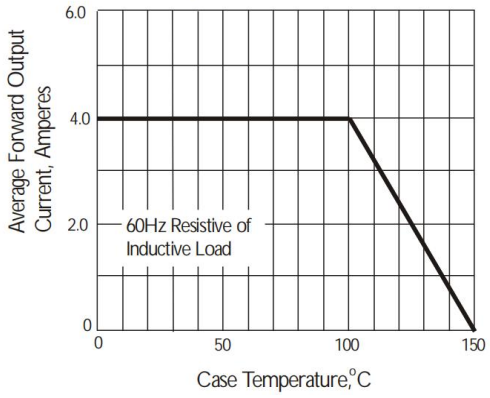


Fig. 2 Maximum Non-repetitive Peak Forward Surge Current

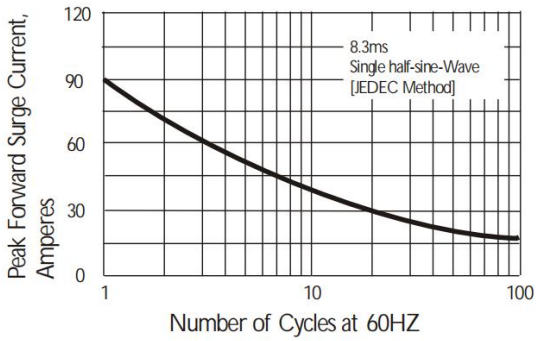


Fig. 3 Typical Instantaneous Forward Characteristics

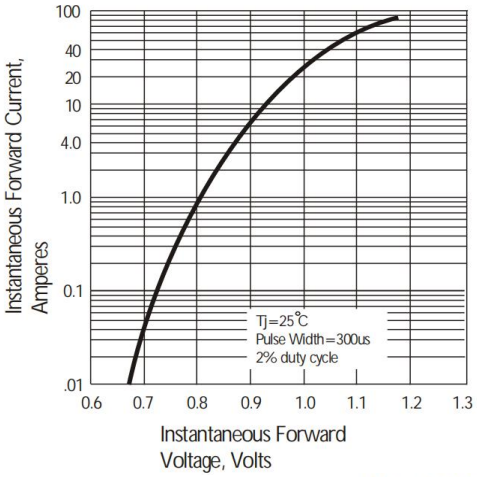


Fig. 4 Typical Reverse Characteristics

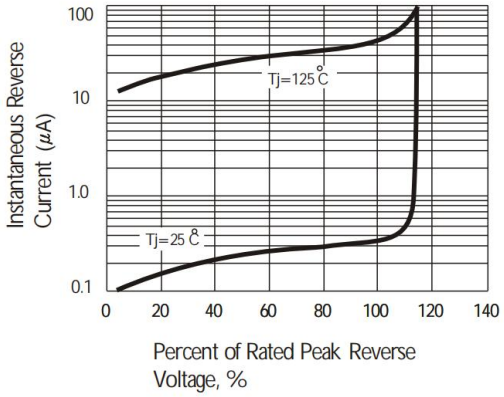
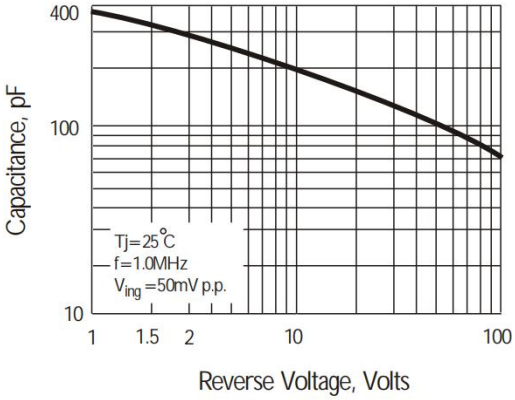
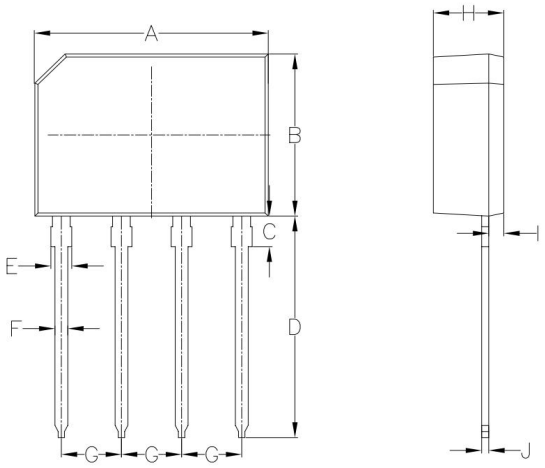


Fig. 5 Typical Junction Capacitance



5 Package Outline Dimensions



Symbol	UNIT(mm)	
	Min	Max
A	13.80	14.20
B	10.40	10.80
C	1.80	2.20
D	12.70	13.70
E	1.30	1.50
F	0.68	0.88
G	3.60	4.00
H	3.00	3.40
I	0.80	1.10
J	0.30	0.40

6 Ordering Information

PACKAGE	UNIT WEIGHT (g)	BOX (pcs)	CARTON (pcs)
GBP	Approximate 1.55	500	5000

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