



KBP2005 THRU KBP210

VOLTAGE RANGE 50 to 1000 Volts
CURRENT 2.0 Ampere

Features

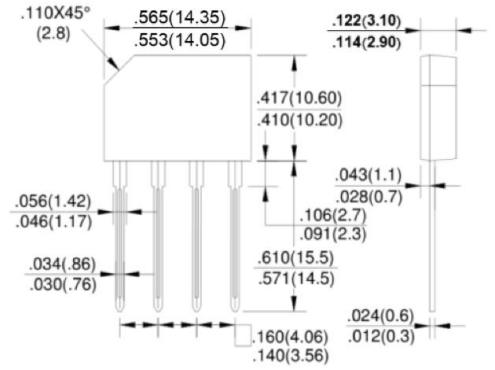
- Glass passivated chip junction
- Ideal for surface mounted applications
- Low leakage
- High forward surge current capability
- High temperature soldering guaranteed:
260°C/10 seconds at terminals

KBP



Mechanical Data

- Case: Molded plastic body
- Epoxy: UL94V-0 rate flame retardant
- Polarity: Molded on body
- LeadP: Plated terminals solderable per MIL-STD-202E method 208C
- Weight: 0.039 ounce, 1.1gram



Dimensions in millimeters

Package: GBP

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 derate current by 20%

TYPE NUMBER	SYMBOL	KBP 2005	KBP 201	KBP 202	KBP 204	KBP 206	KBP 208	KBP 210	UNIT
Maximum Reverse Peak Repetitive Voltage	V _{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V _{DC}	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Output Current, 0.06"(1.5mm) lead length at T _C =100°C	I _(AV)	2.0							Amps
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC Method)	I _{FSM}	50							Amps
Rating for Fusing (t<8.3ms)	I ² t	18							A ² s
Maximum Instantaneous Forward Voltage drop Per Bridge element 2.0A	V _F	1.1							Volts
Maximum Reverse Current at rated DC blocking voltage per element	TA=25°C	5							µAmps
	TA=100°C	50							
Typical Thermal Resistance (NOTE 2)	R _{θJC}	6							°C/W
	R _{θJL}	5							°C/W
	R _{θJA}	42							°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	(-55 to +150)							°C

Notes:

1. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
2. Unit mounted on P.C.B. with 0.033"×0.043"(1.00mm×1.30mm) copper pads.



Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

FIG.1-FORWARD CURRENT DERATING CURVE

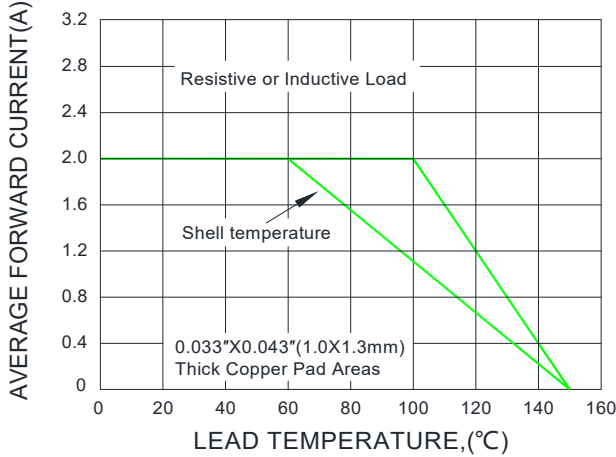


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

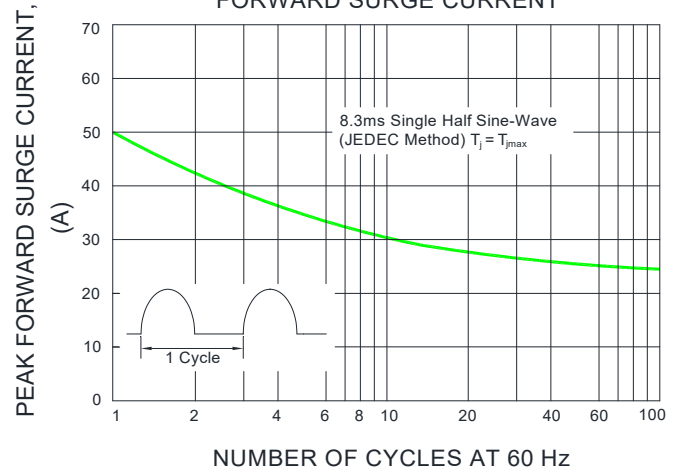


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

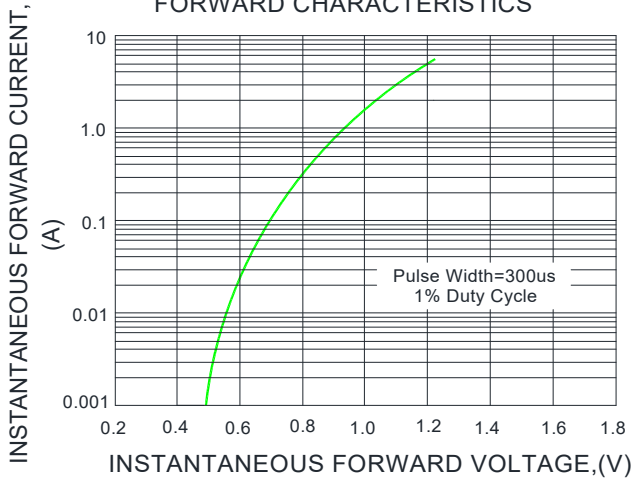


FIG.4-TYPICAL REVERSE CHARACTERISTICS

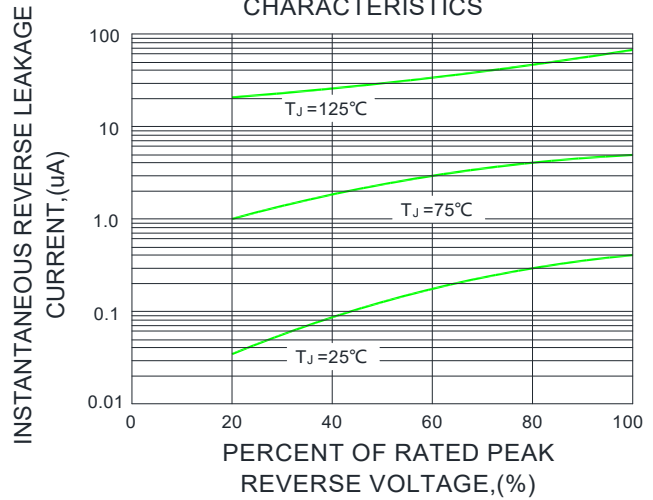
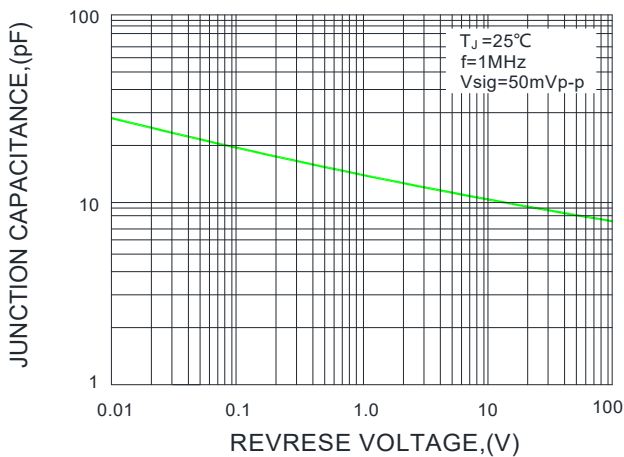
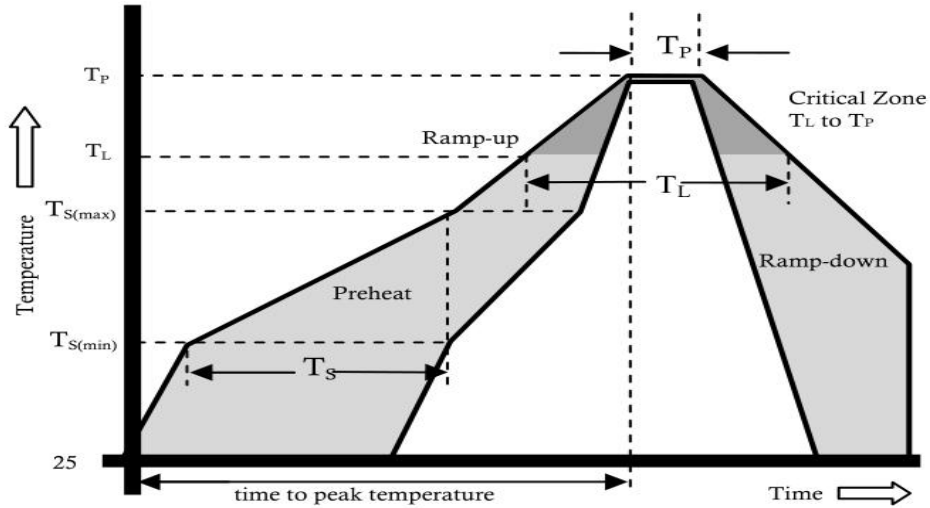


FIG.5-TYPICAL JUNCTION CAPACITANCE





Reflow Profile



Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time(Min to Max)	60-180 secs.
Average ramp up rate(Liquidus Temp(T_L) to peak)		3°C/sec. Max.
$T_{S(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature (T_L)(Liquidus)	+217°C
	Temperature (T_L)	60-150 secs.
Peak Temp (T_P)		+(260+0/-5)°C
Time within 5°C of actual Peak Temp (T_P)		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp (T_P)		8 min. Max.
Do not exceed		+260°C

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