SINGLE-PHASE SILICON BRIDGE RECTIFIER

KBP6005 THRU KBP610

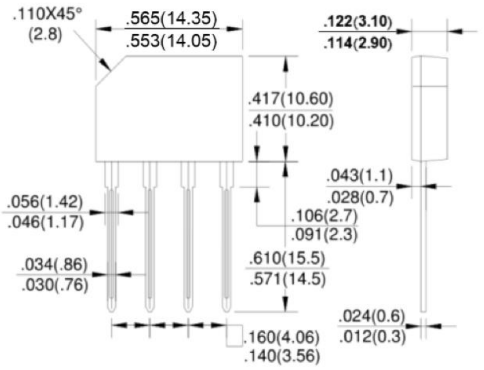
VOLTAGE RANGE 50 to 1000 Volts

CURRENT 6.0 Ampere

RoHS COMPLIANT

Features

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



Dimensions in milimeters

Package: GBP

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

Maximum Ratings and Electrical Characteristics

- Ratings at 25℃ ambient temperature unless otherwise specified
- Single Phase, half wave, 60Hz, resistive or inductive load
- For capacitive load derate current by 20%

TYPE NUMBER		SYMBOLS	KBP 6005	KBP 601	KBP 602	KBP 604	KBP 606	KBP 608	KBP 610	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℃		$I_{(AV)}$	6.0							Amps
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC Method)		I_{FSM}	125							Amps
Rating for Fusing (t < 8.3ms)		I^2t	136							A^2s
Maximum Instantaneous Forward Voltage drop Per Bridge element 6.0A		V_F	1.1							Volts
Maximum Reverse Current at rated DC blocking voltage per element	T_A=25℃	I_R	5							μAmps
	T_A=125℃		50							
Typical Thermal Resistance (NOTE 2)		$R_{\Theta JC}$	6							℃/W
		$R_{\Theta JL}$	5							℃/W
		$R_{\Theta JA}$	42							℃/W
Operating and Storage Temperature Range		T_J ,T_{STG}	(-55 to +150)							℃

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.

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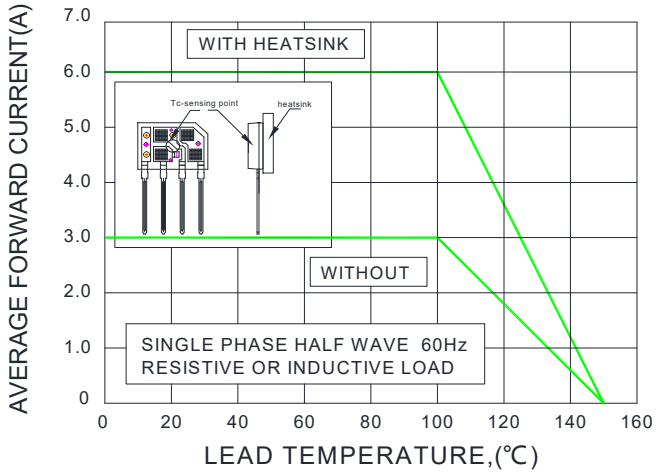
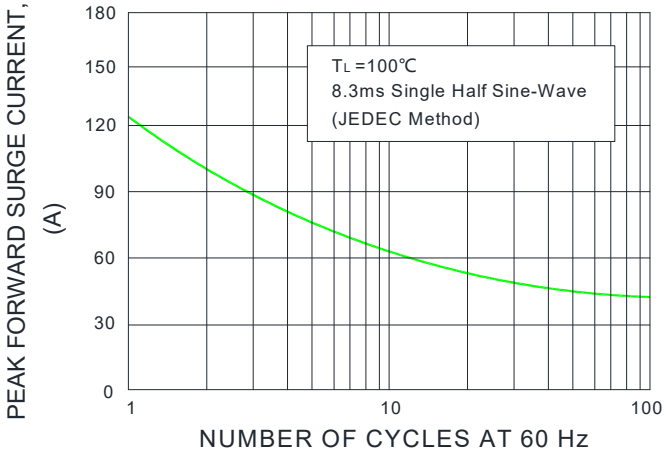
Ratings and Characteristic Curves (T_A=25℃ unless otherwise noted)

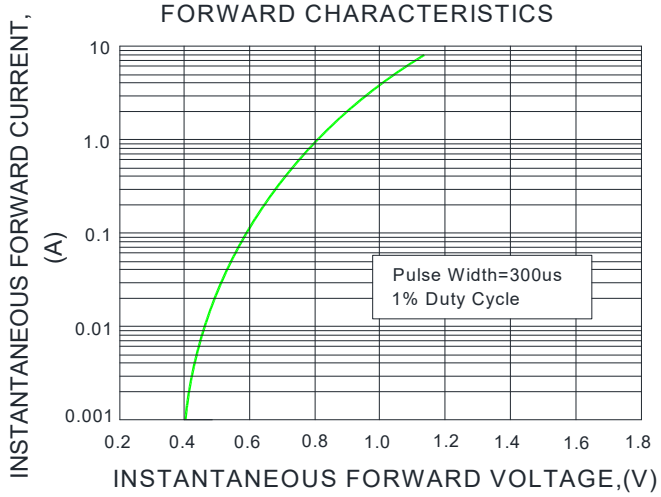
F1G.1-FORWARD CURRENT DERATING CURVE



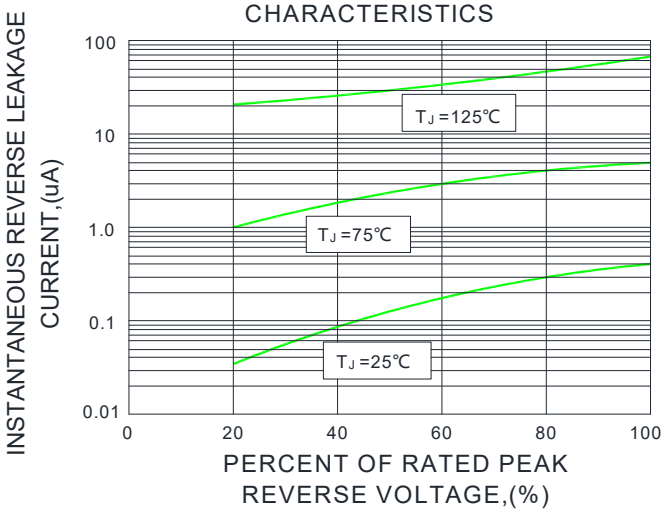
F1G.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



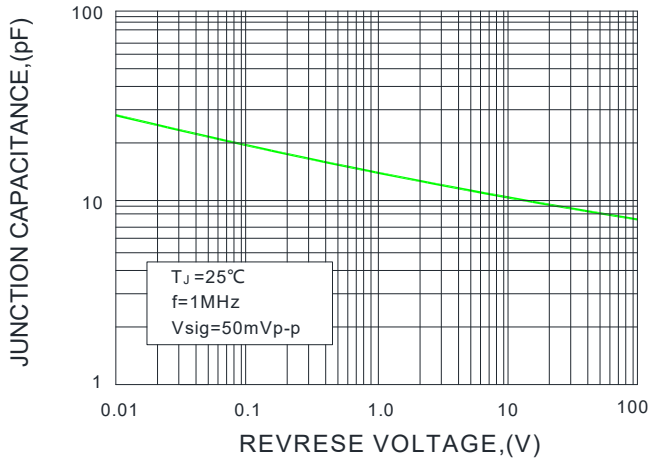
F1G.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



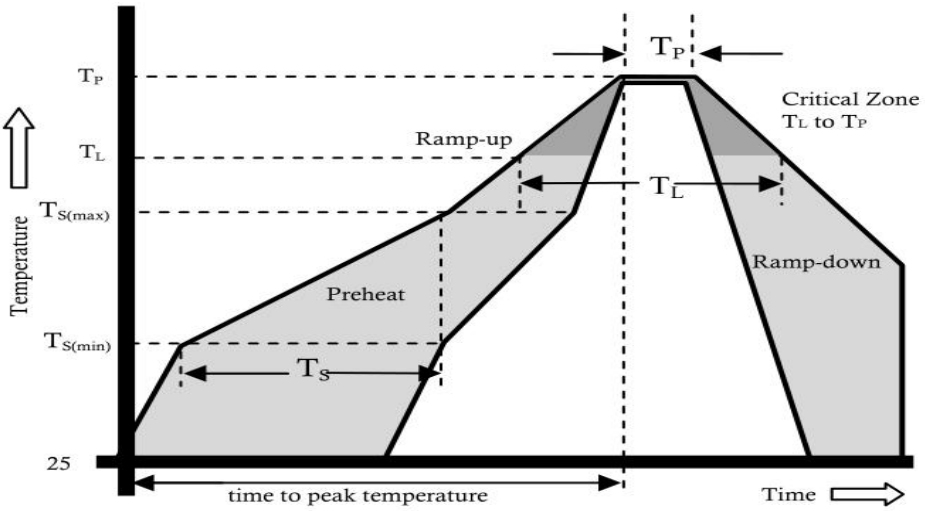
F1G.4-TYPICAL REVERSE CHARACTERISTICS



F1G.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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