



**KBP4005 THRU KBP410**

**VOLTAGE RANGE** 50 to 1000 Volts  
**CURRENT** 4.0 Ampere

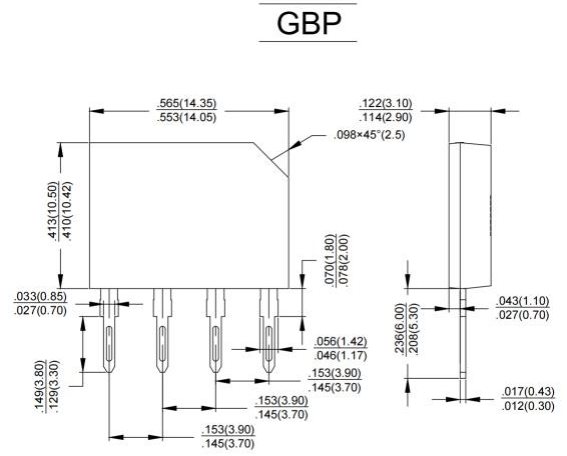


**Features**

- 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

**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 inches and(millimeters)

**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 4005	KBP 401	KBP 402	KBP 404	KBP 406	KBP 408	KBP 410	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 $T_C=100^\circ C$	$I_{(AV)}$	4.0							Amps
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	120							Amps
Rating for Fusing ( $t < 8.3ms$ )	$I^2t$	75							A <sup>2</sup> s
Maximum Instantaneous Forward Voltage drop Per Bridge element 4.0A	$V_F$	1.1							Volts
Maximum Reverse Current at rated DC blocking voltage per element	TA=25°C	5							µAmps
	TA=125°C	50							
Typical Thermal Resistance (NOTE 2)	$R_{\theta JC}$	5							°C/W
	$R_{\theta JL}$	4							°C/W
	$R_{\theta JA}$	39							°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"x0.043"(1.00mmx1.30mm) copper pads.



# SINGLE-PHASE SILICON BRIDGE RECTIFIER

## KBP4005 THRU KBP410

VOLTAGE RANGE

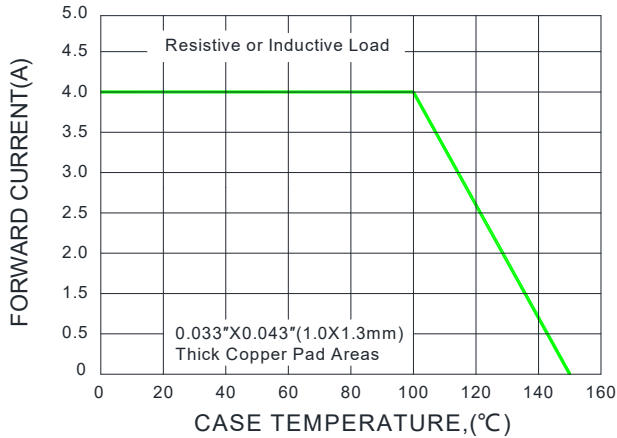
50 to 1000 Volts

CURRENT

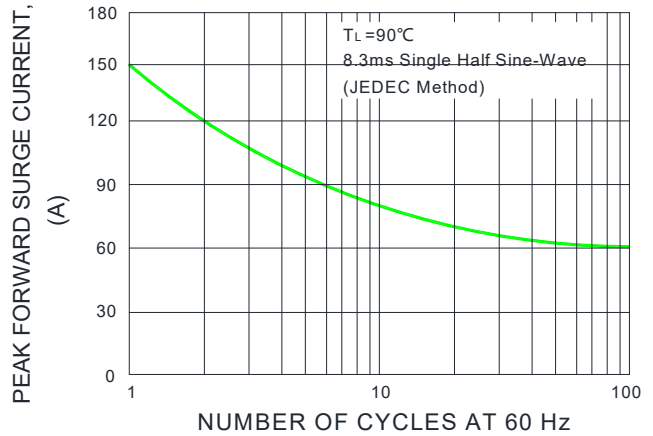
4.0 Ampere

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

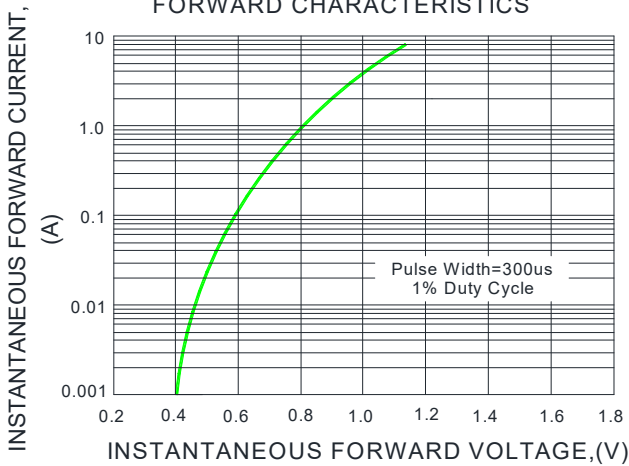
F1G.1-FORWARD CURRENT DERATING CURVE



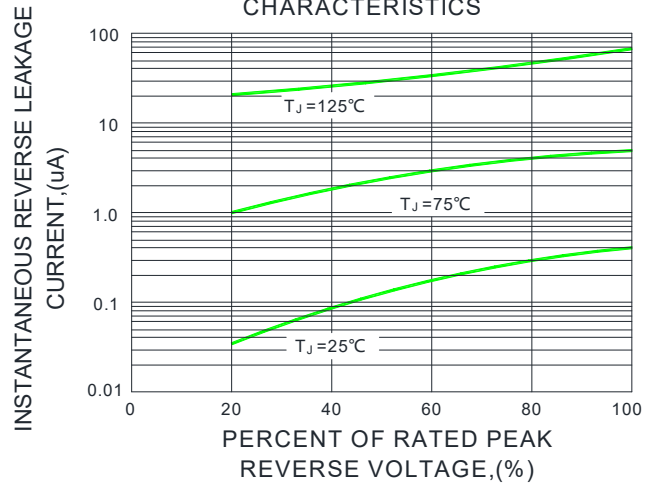
F1G.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



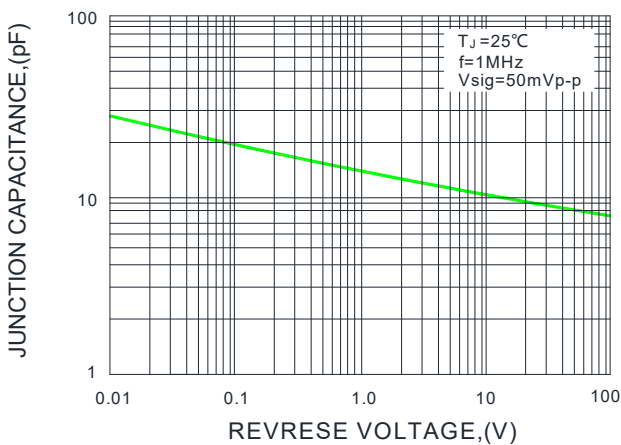
F1G.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



F1G.4-TYPICAL REVERSE CHARACTERISTICS

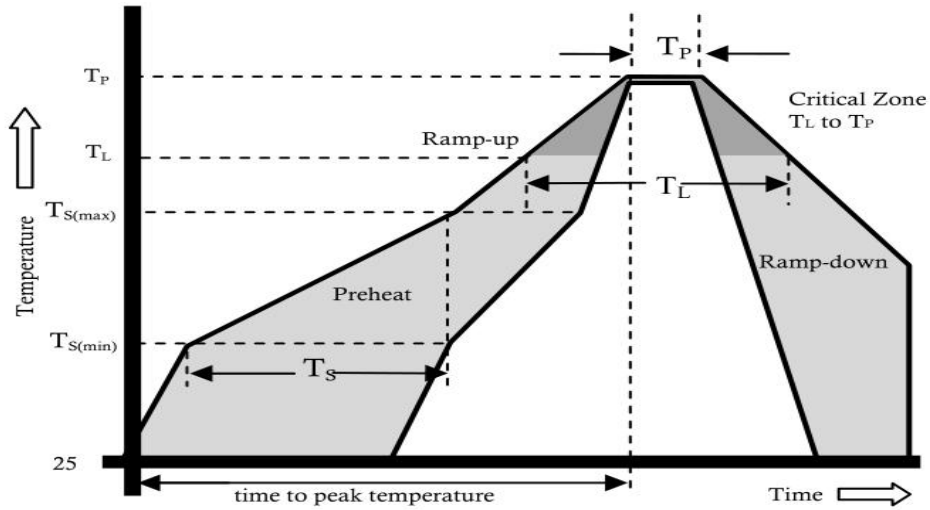


F1G.5-TYPICAL JUNCTION CAPACITANCE





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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