

## Maximum Ratings (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitance load, derate current by 20%.

Characteristic	Symbol	KBP2005G	KBP201G	KBP202G	KBP204G	KBP206G	KBP208G	KBP210G	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>								
Working Peak Reverse Voltage	V <sub>RWM</sub>	50	100	200	400	600	800	1,000	V
DC Blocking Voltage	V <sub>RM</sub>								
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	140	280	420	560	700	V
Average Rectified Output Current @T <sub>C</sub> = +105°C	I <sub>O</sub>	2.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	65							A
I <sup>2</sup> t Rating for Fusing (3ms ≤ t ≤ 8.3ms)	I <sup>2</sup> t	17.5							A <sup>2</sup> s

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Case (Note 4)	R <sub>θJC</sub>	14	°C/W
Typical Thermal Resistance, Junction to Lead	R <sub>θJL</sub>	18	°C/W
Typical Thermal Resistance, Junction to Ambient	R <sub>θJA</sub>	40	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

## Electrical Characteristics (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 5)	V <sub>(BR)R</sub>	KBP210G 1,000 KBP208G 800 KBP206G 600 KBP204G 400 KBP202G 200 KBP201G 100 KBP2005G 50	—	—	V	I <sub>R</sub> = 5μA
Forward Voltage Drop per Element	V <sub>F</sub>	—	—	1.1	V	I <sub>F</sub> = 2A, T <sub>J</sub> = +25°C
Leakage Current (Note 5)	I <sub>R</sub>	—	—	5 500	μA	V <sub>R</sub> = V <sub>RRM</sub> , T <sub>C</sub> = +25°C V <sub>R</sub> = V <sub>RRM</sub> , T <sub>C</sub> = +125°C
Total Capacitance per Element	C <sub>T</sub>	—	25	—	pF	V <sub>R</sub> = 4.0V <sub>DC</sub> , f = 1MHz

Notes: 4. Thermal resistance from junction to case per element. Device mounted on 75mm x 75mm x 1.6mm Cu Plate Heatsink.  
5. Short duration pulse test used to minimize self-heating effect.

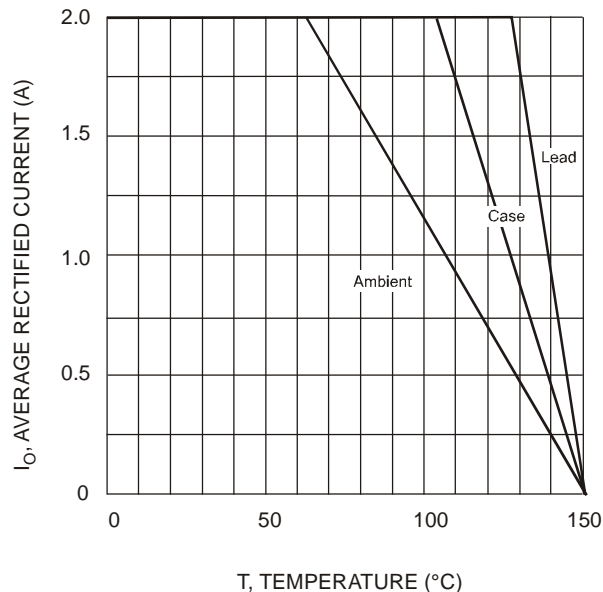


Fig. 1 Forward Current Derating Curve

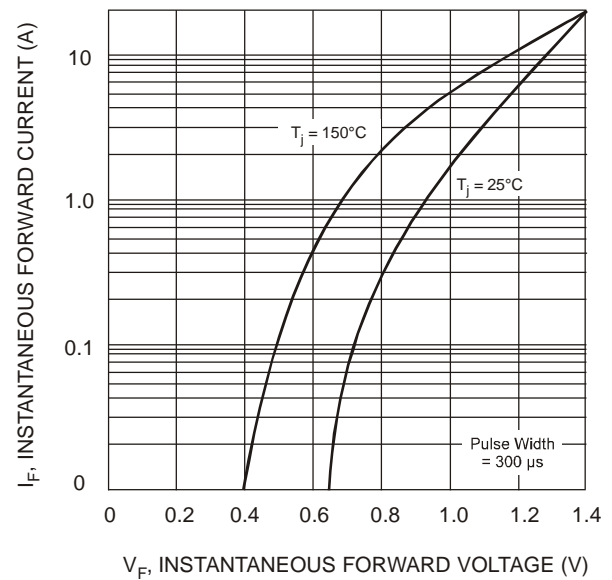


Fig. 2 Typical Forward Characteristics

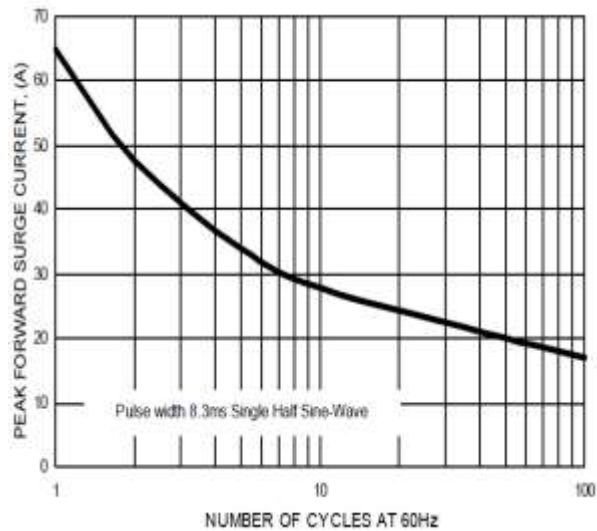


Fig. 3 Maximum Non-Repetitive Surge Current

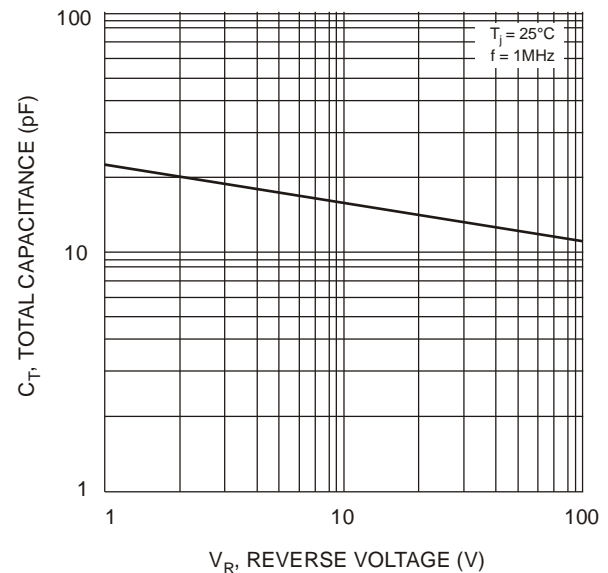


Fig. 4 Typical Total Capacitance, Per Element

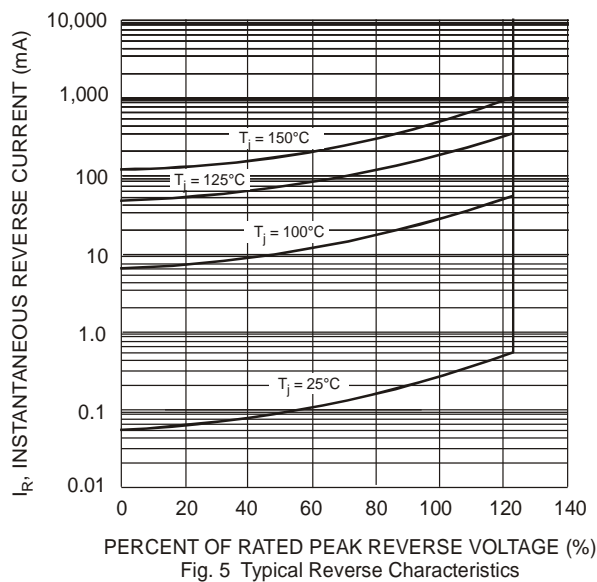


Fig. 5 Typical Reverse Characteristics

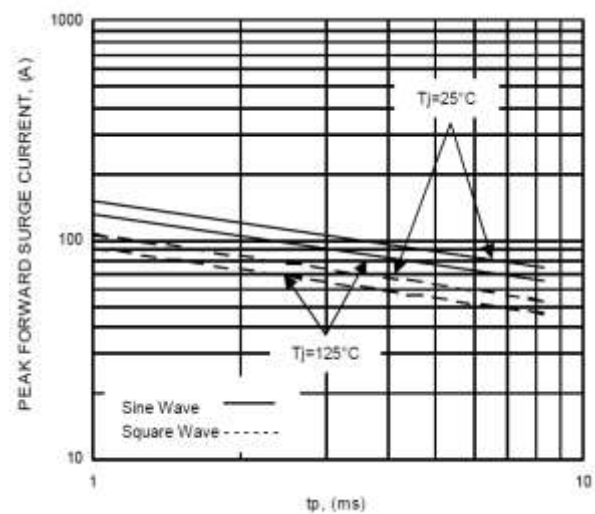
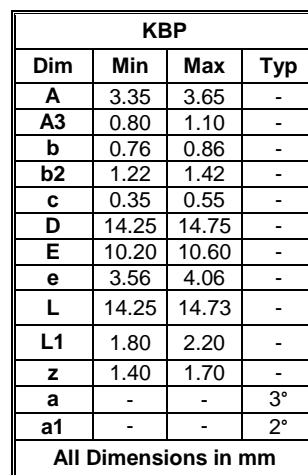


Fig. 6 Non-Repetitive Surge Current

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