



America Semiconductor

Silicon Bridge Rectifier

KBJ25005G thru KBJ2504G

$V_{RRM} = 50\text{ V} - 1000\text{ V}$

$I_F = 25\text{ A}$

Features

- Types up to 1000 V V_{RRM}
- Ideal for printed circuit board
- Low forward voltage drop, high current capability
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Reliable, low cost construction utilizing molded plastic technique

KBJ Package



Maximum ratings, at $T_j = 25\text{ }^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Conditions	KBJ25005G	KBJ2501G	KBJ2502G	KBJ2504G	Unit
Repetitive peak reverse voltage	V_{RRM}		50	100	200	400	V
RMS reverse voltage	V_{RMS}		35	70	140	280	V
DC blocking voltage	V_{DC}		50	100	200	400	V
Continuous forward current	I_F	$T_C \leq 110^\circ\text{C}$, with heatsink	25	25	25	25	A
		$T_C \leq 110^\circ\text{C}$, without heatsink	4.2	4.2	4.2	4.2	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	$T_C = 25\text{ }^\circ\text{C}$, $t_p = 8.3\text{ ms}$	350	350	350	350	A
Operating temperature	T_j		-55 to 150	-55 to 150	-55 to 150	-55 to 150	$^\circ\text{C}$
Storage temperature	T_{stg}		-55 to 150	-55 to 150	-55 to 150	-55 to 150	$^\circ\text{C}$

Electrical characteristics, at $T_j = 25\text{ }^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Conditions	KBJ25005G	KBJ2501G	KBJ2502G	KBJ2504G	Unit
Diode forward voltage	V_F	$I_F = 12.5\text{ A}$, $T_j = 25\text{ }^\circ\text{C}$	1.05	1.05	1.05	1.05	V
Reverse current	I_R	$V_R = 50\text{ V}$, $T_j = 25\text{ }^\circ\text{C}$	10	10	10	10	μA
		$V_R = 50\text{ V}$, $T_j = 125\text{ }^\circ\text{C}$	500	500	500	500	μA

Thermal characteristics

Parameter	Symbol	Conditions	KBJ25005G	KBJ2501G	KBJ2502G	KBJ2504G	Unit
Thermal resistance, junction - case	R_{thJA}		0.6	0.6	0.6	0.6	$^\circ\text{C/W}$





FIG. 1 - FORWARD CURRENT DERATING CURVE

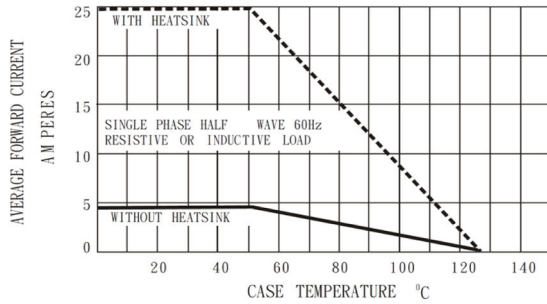


FIG. 2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

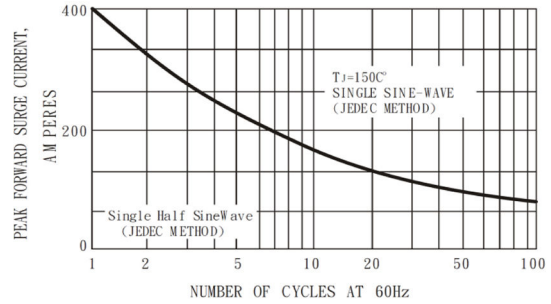


FIG. 3 - TYPICAL JUNCTION CAPACITANCE

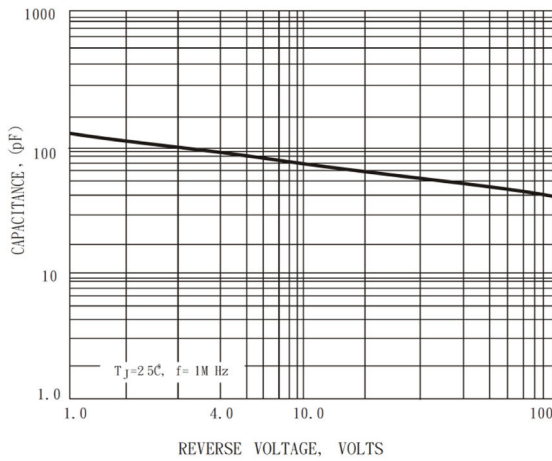


FIG. 4 - TYPICAL FORWARD CHARACTERISTICS

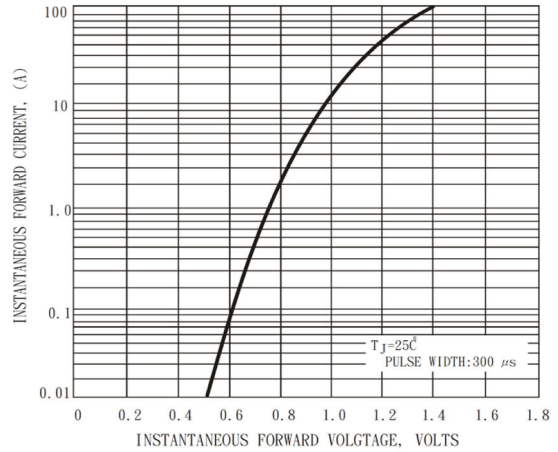


FIG. 5 - TYPICAL REVERSE CHARACTERISTICS

