



America Semiconductor

Silicon Bridge Rectifier

KBPC25005TW thru KBPC2504TW

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

$I_F = 25\text{ A}$

Features

- High efficiency
- Types up to 1000 V V_{RRM}
- Silicon junction
- Metal case

KBPC-T/W Package



Mechanical Data

Case: Mounted in the bridge encapsulation

Mounting position: Hole for #10 screw

Polarity: Marked on case

Maximum ratings, at $T_j = 25\text{ }^\circ\text{C}$, unless otherwise specified (KBPCXXXXT uses KBPC-T package while KBPCXXXXW uses KBPC-W package)

Parameter	Symbol	Conditions	KBPC25005T/W	KBPC2501T/W	KBPC2502T/W	KBPC2504T/W	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	$T_C \leq 55\text{ }^\circ\text{C}$	25	25	25	25	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	KBPC25005T/W	KBPC2501T/W	KBPC2502T/W	KBPC2504T/W	Unit
Diode forward voltage	V_F	$I_F = 12.5\text{ A}$, $T_j = 25\text{ }^\circ\text{C}$	1.1	1.1	1.1	1.1	V
Reverse current	I_R	$V_R = 50\text{ V}$, $T_j = 25\text{ }^\circ\text{C}$	5	5	5	5	μA
		$V_R = 50\text{ V}$, $T_j = 100\text{ }^\circ\text{C}$	500	500	500	500	

Thermal characteristics

Thermal resistance, junction - case	R_{thJC}		1.9	1.9	1.9	1.9	$^\circ\text{C/W}$
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FIG.1 - TYPICAL FORWARD CURRENT DERATING CURVE

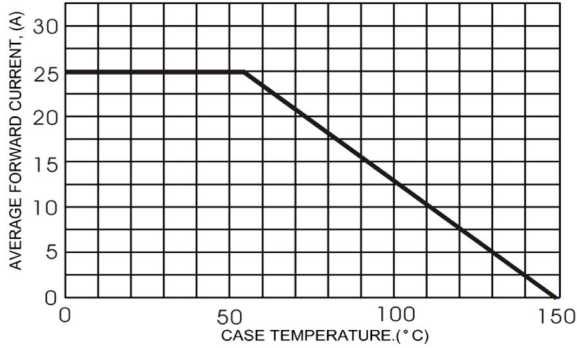


FIG.2 - TYPICAL FORWARD CHARACTERISTICS

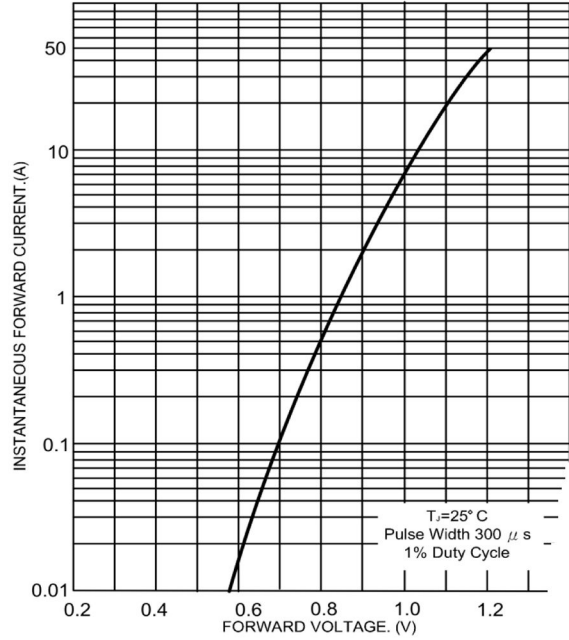


FIG.3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

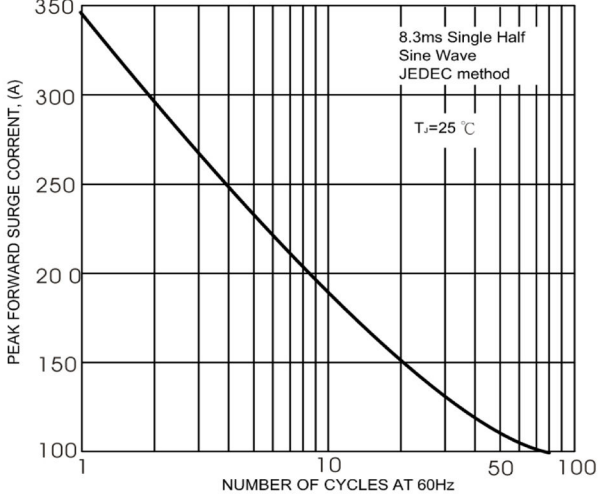


FIG.4 - TYPICAL JUNCTION CAPACITANCE

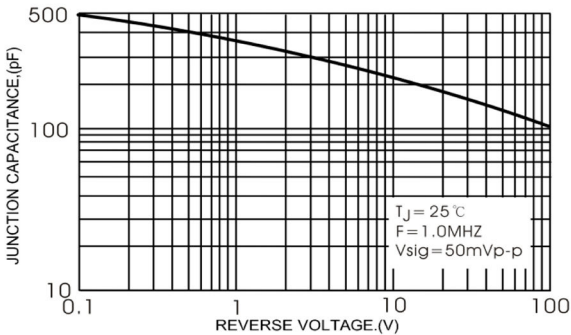


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

