



# 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	$\mu\text{A}$
		$V_R = 50\text{ V}$ , $T_j = 100\text{ }^\circ\text{C}$	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

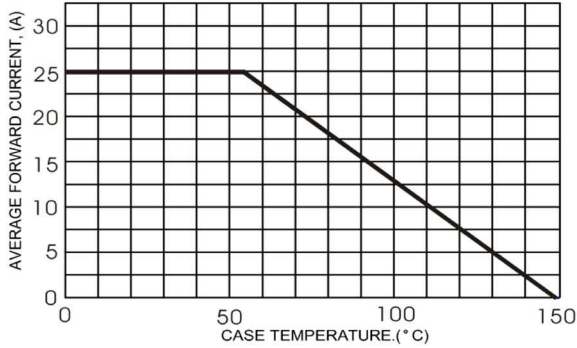


FIG.2 - TYPICAL FORWARD CHARACTERISTICS

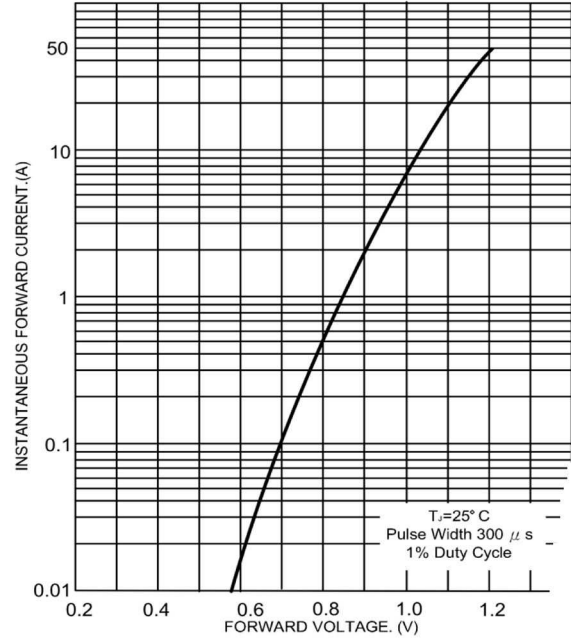


FIG.3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

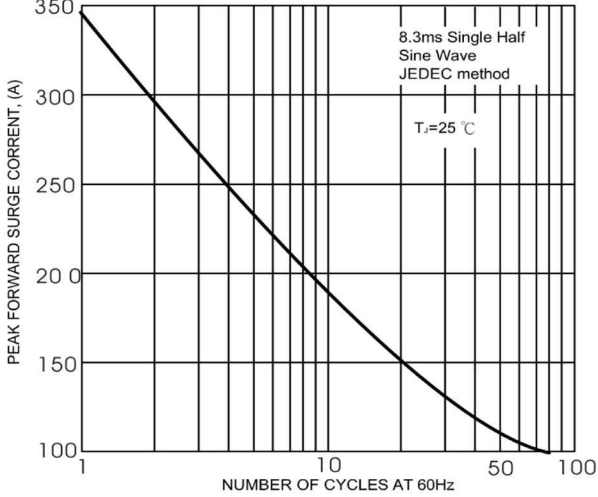


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

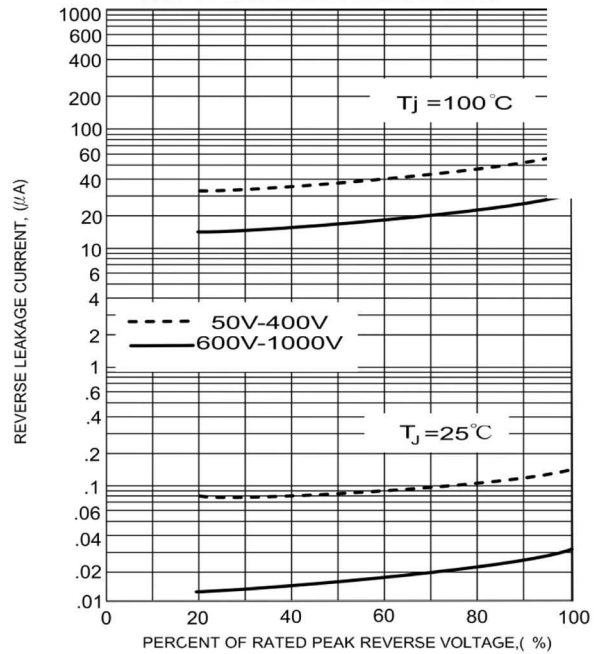


FIG.4 - TYPICAL JUNCTION CAPACITANCE

