

## Single Phase Silicon Bridge Rectifier

$V_{RRM} = 50\text{ V} - 400\text{ V}$

$I_O = 25\text{ A}$

### Features

- High efficiency
- Silicon junction
- Metal case
- Types from 50 V to 400 V  $V_{RRM}$
- Not ESD Sensitive

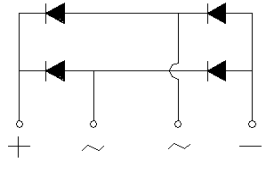
### Mechanical Data

Case: Mounted in the bridge encapsulation

Mounting: Hole for #10 screw

Polarity: Marked on case

KBPC-T/W Package



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

Single phase, half sine wave, 60 Hz, resistive or inductive load

For capacitive load derate current by 20%

Parameter	Symbol	Conditions	KBPC25005T/W	KBPC2501T/W	KBPC2502T/W	KBPC2504T/W	Unit
Maximum average forward rectified current	$I_O$	$T_c = 55\text{ }^\circ\text{C}$	25	25	25	25	A
Peak forward surge current	$I_{FSM}$	8.3 ms half sine-wave	350	350	350	350	A
Maximum instantaneous forward voltage per leg	$V_F$	$I_F = 12.5\text{ A}$	1.1	1.1	1.1	1.1	V
Maximum DC reverse current at rated DC blocking voltage per leg	$I_R$	$T_c = 25\text{ }^\circ\text{C}$ $T_c = 100\text{ }^\circ\text{C}$	5 500	5 500	5 500	5 500	$\mu\text{A}$
Typical junction capacitance <sup>1</sup>	$C_j$		300	300	300	300	pF

### Thermal characteristics

Parameter	Symbol	Conditions	KBPC25005T/W	KBPC2501T/W	KBPC2502T/W	KBPC2504T/W	Unit
Typical thermal resistance <sup>2</sup>	$R_{\theta JC}$		1.9	1.9	1.9	1.9	$^\circ\text{C/W}$

<sup>1</sup> - Measured at 1 MHz and applied reverse voltage of 4.0 V D.C.

<sup>2</sup> - Device mounted on 300 mm x 300 mm x 1.6 mm Cu plate heatsink

FIG.1 - TYPICAL FORWARD CURRENT DERATING CURVE

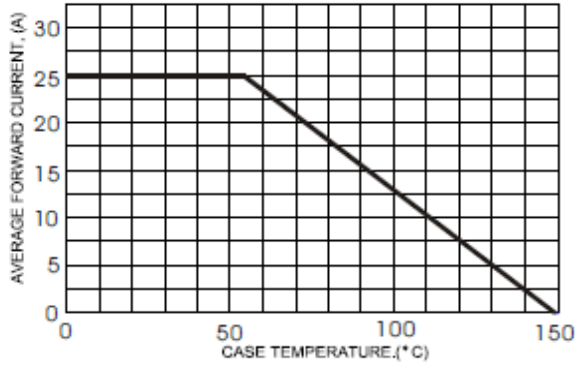


FIG.2 - TYPICAL FORWARD CHARACTERISTICS

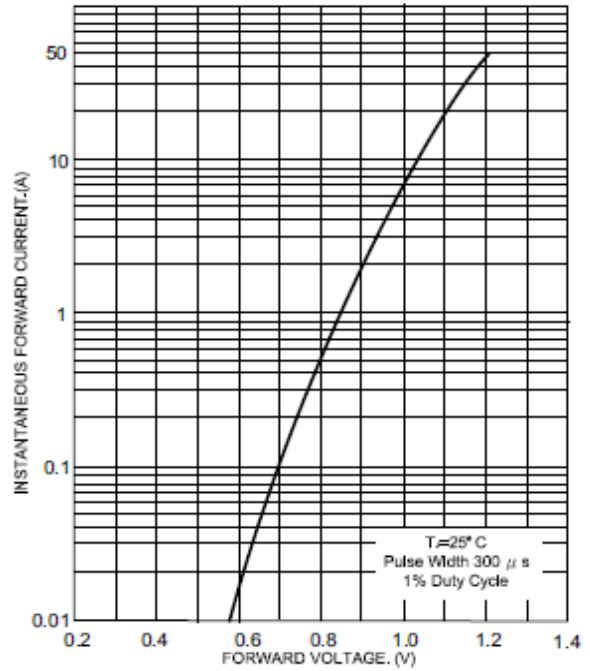


FIG.3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

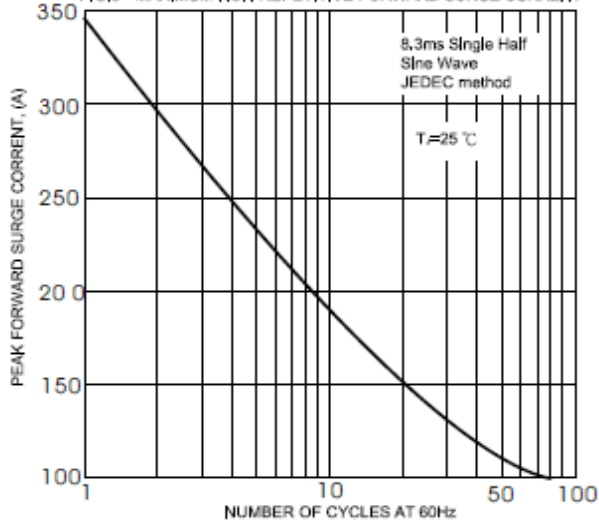


FIG.4 - TYPICAL JUNCTION CAPACITANCE

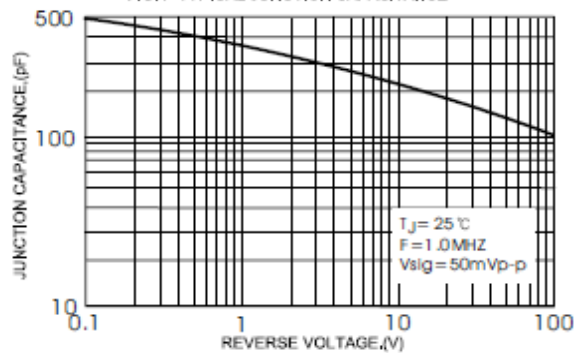
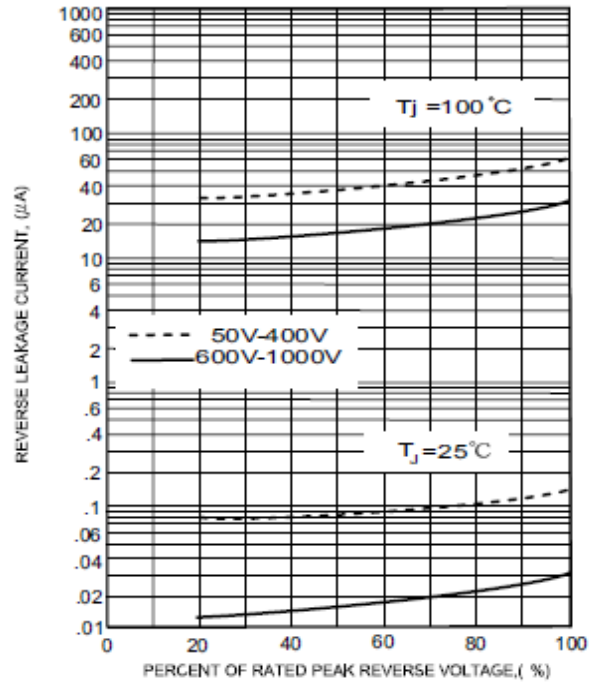
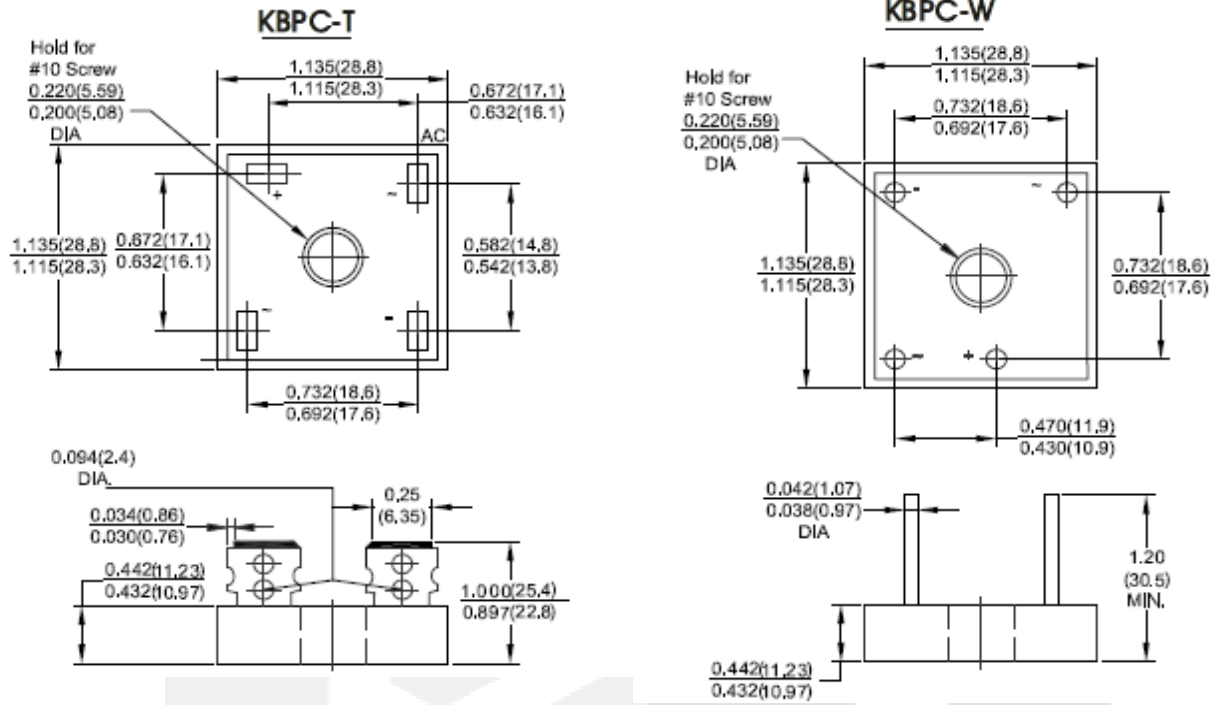


FIG.5 - TYPICAL REVERSE CHARACTERISTICS



**Package dimensions and terminal configuration**

Product is marked with part number and terminal configuration.



Dimensions in inches and (millimeters)

