

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

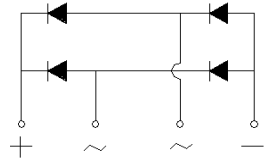
Mechanical Data

Case: Mounted in the bridge encapsulation

Mounting: Hole for #10 screw

Polarity: Marked on case

KBPC-T/W Package



Maximum ratings at $T_c = 25^\circ\text{C}$, 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 $T_c = 25^\circ\text{C}$, 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	$T_c = 55^\circ\text{C}$	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	$T_c = 25^\circ\text{C}$ $T_c = 100^\circ\text{C}$	5 500	5 500	5 500	5 500	μA
Typical junction capacitance ¹	C_j		300	300	300	300	pF

Thermal characteristics

Typical thermal resistance ²	$R_{\theta JC}$		1.9	1.9	1.9	1.9	$^\circ\text{C/W}$
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¹ - Measured at 1 MHz and applied reverse voltage of 4.0 V D.C.

² - Device mounted on 300 mm x 300 mm x 1.6 mm Cu plate heatsink

FIG.1 • TYPICAL FORWARD CURRENT DERATING CURVE

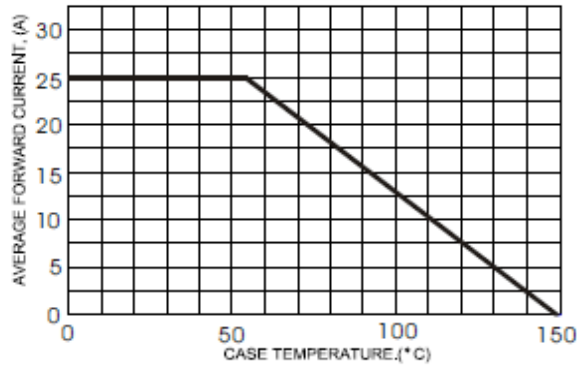


FIG.2 • TYPICAL FORWARD CHARACTERISTICS

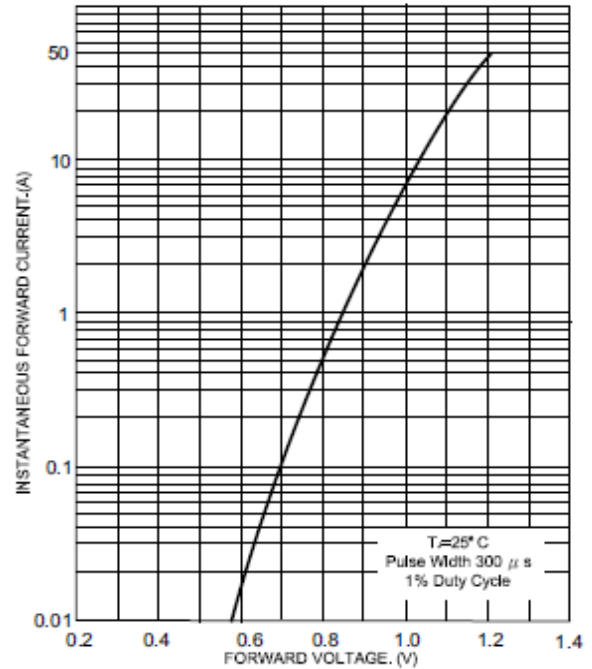


FIG.3 • MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

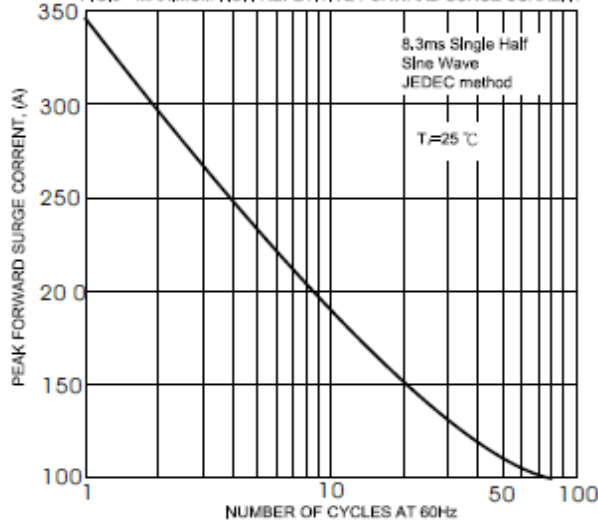


FIG.4 • TYPICAL JUNCTION CAPACITANCE

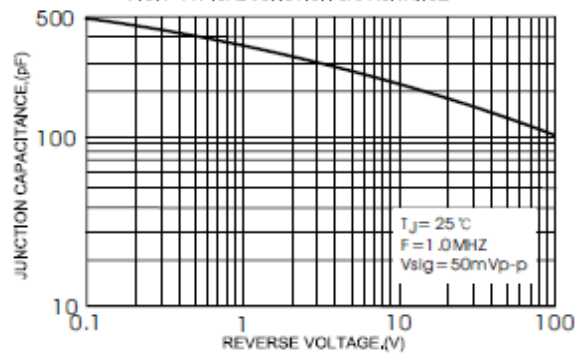
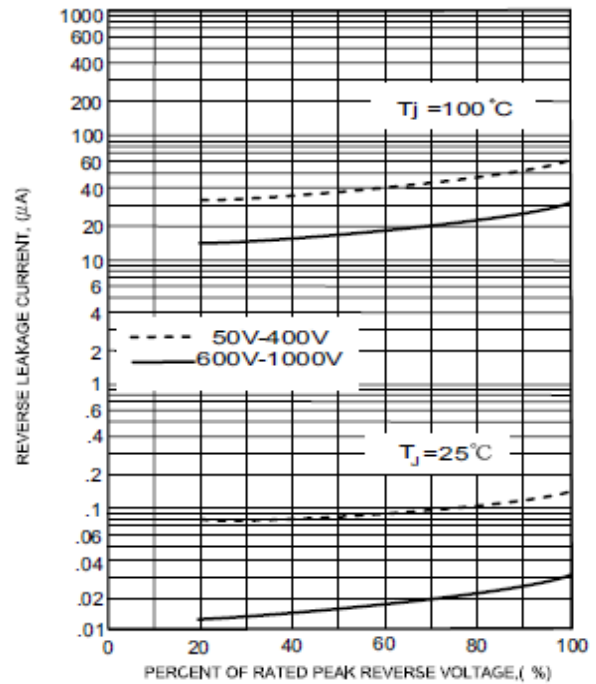
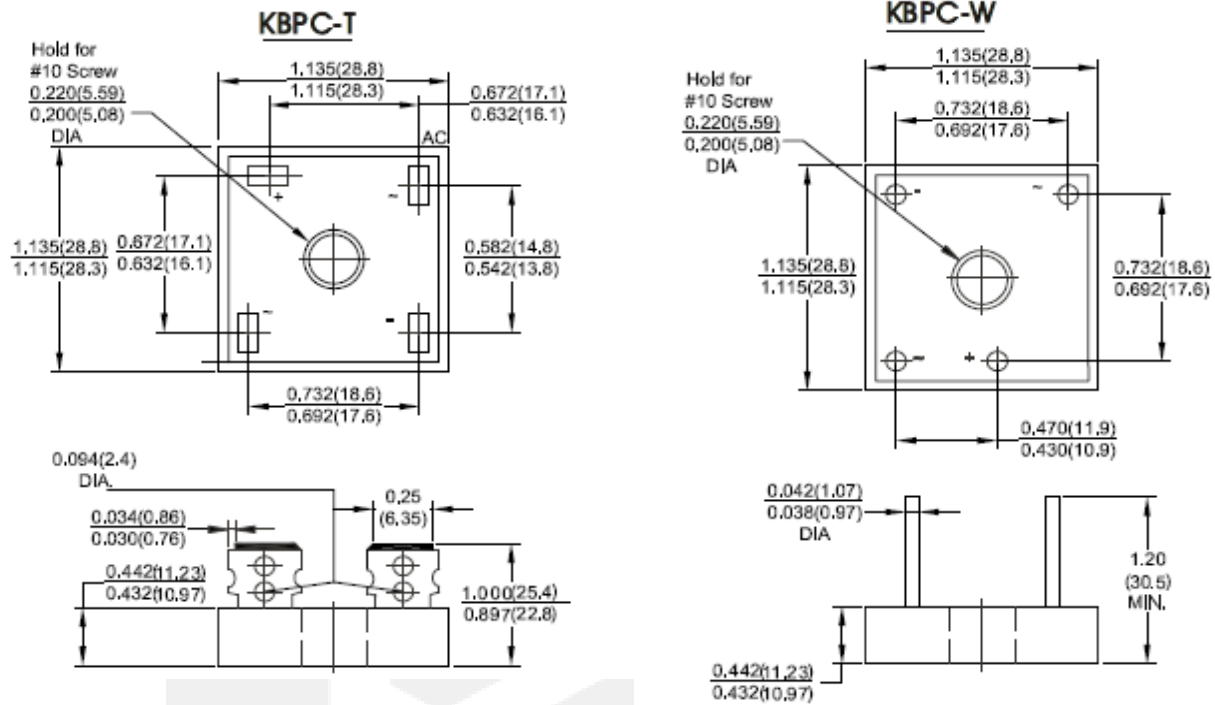


FIG.5 • TYPICAL REVERSE CHARACTERISTICS

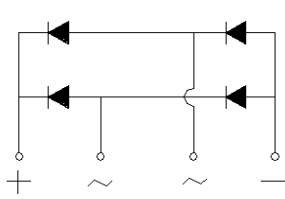


Package dimensions and terminal configuration

Product is marked with part number and terminal configuration.



Dimensions in inches and (millimeters)



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