

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

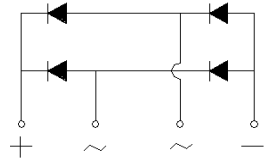
Mechanical Data

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	$T_c = 25^\circ\text{C}$	5	5	5	5	μA
		$T_c = 100^\circ\text{C}$	500	500	500	500	
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	$^\circ\text{C/W}$
---	-----------------	--	-----	-----	-----	-----	--------------------

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

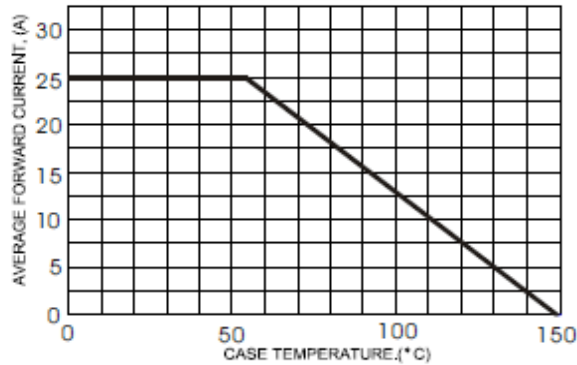


FIG.2 • TYPICAL FORWARD CHARACTERISTICS

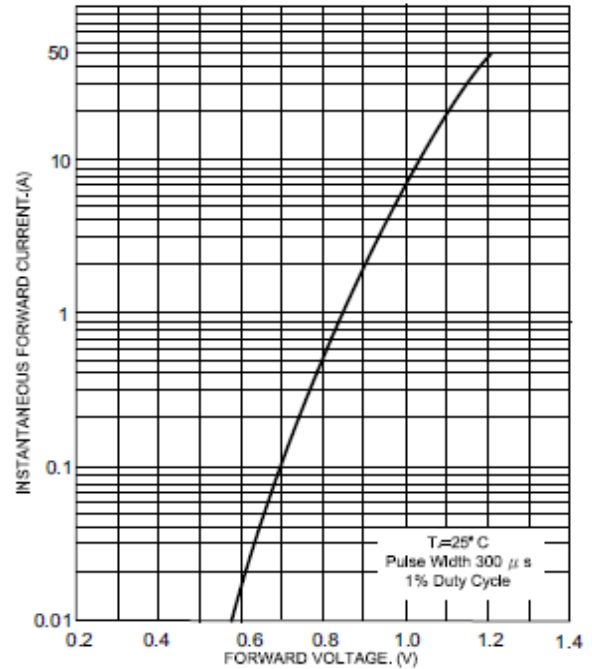


FIG.3 • MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

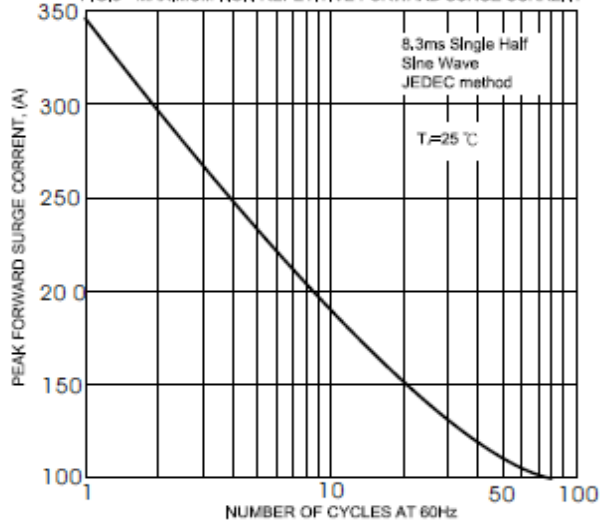


FIG.4 • TYPICAL JUNCTION CAPACITANCE

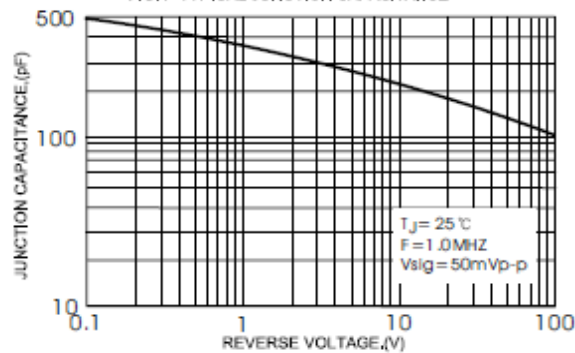
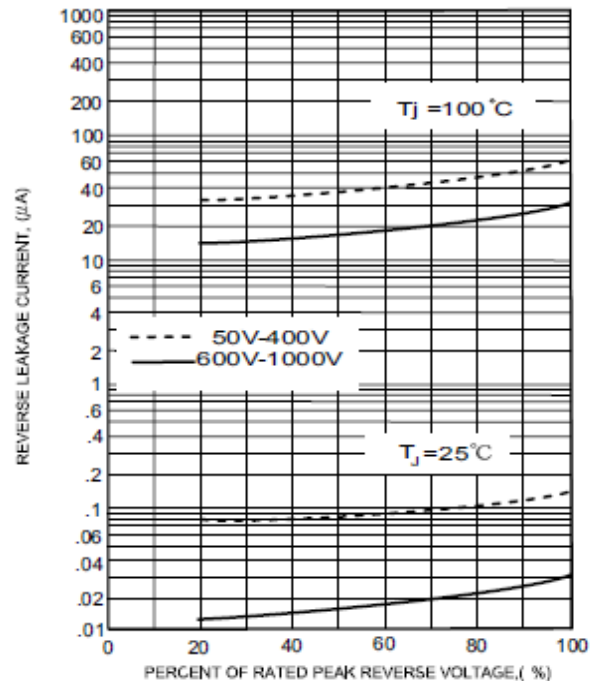
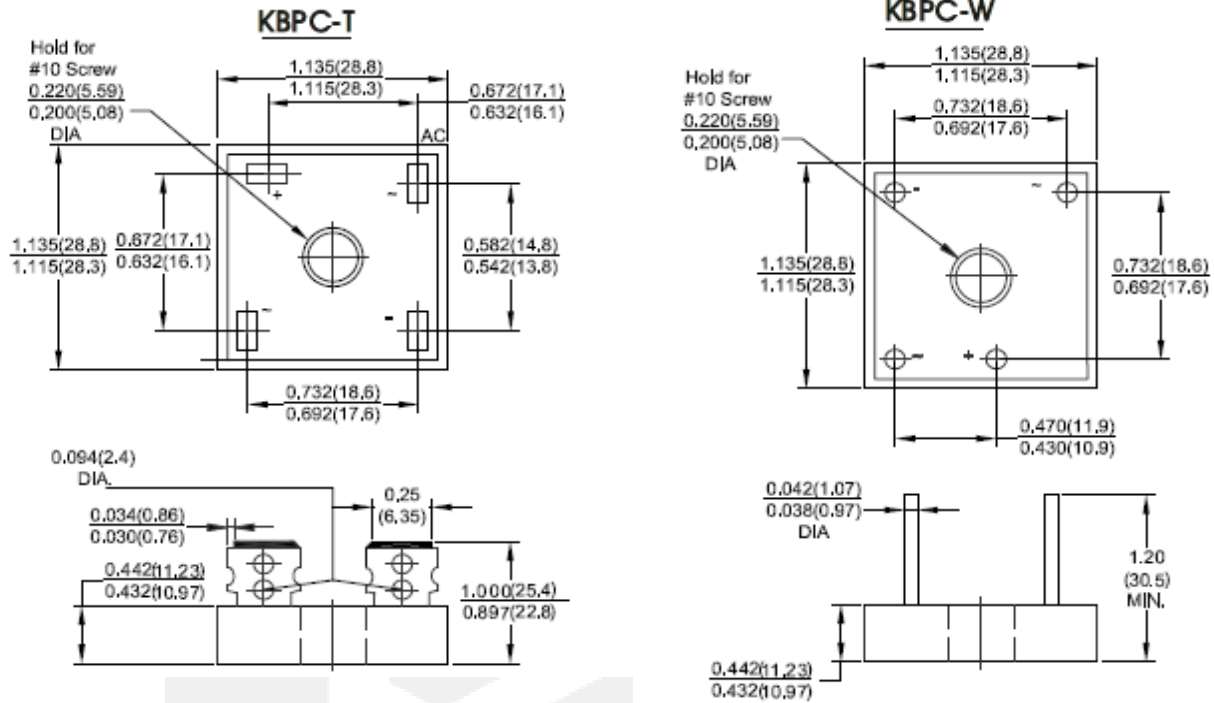


FIG.5 • TYPICAL REVERSE CHARACTERISTICS

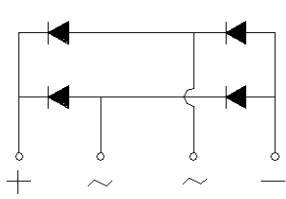


Package dimensions and terminal configuration

Product is marked with part number and terminal configuration.



Dimensions in inches and (millimeters)



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[GeneSiC Semiconductor:](#)

[KBPC2501T](#)