



# Single Phase Diode Bridge KBPC50, KBPC50-W



## Key Parameters

$I_O$	=	50	A
$V_{RRM}$	=	50 - 1600	V
$V_{R(RMS)}$	=	35 - 1120	V
$I_{FSM}$	=	450	A
$I^2t$	=	800	mΩ

## Properties

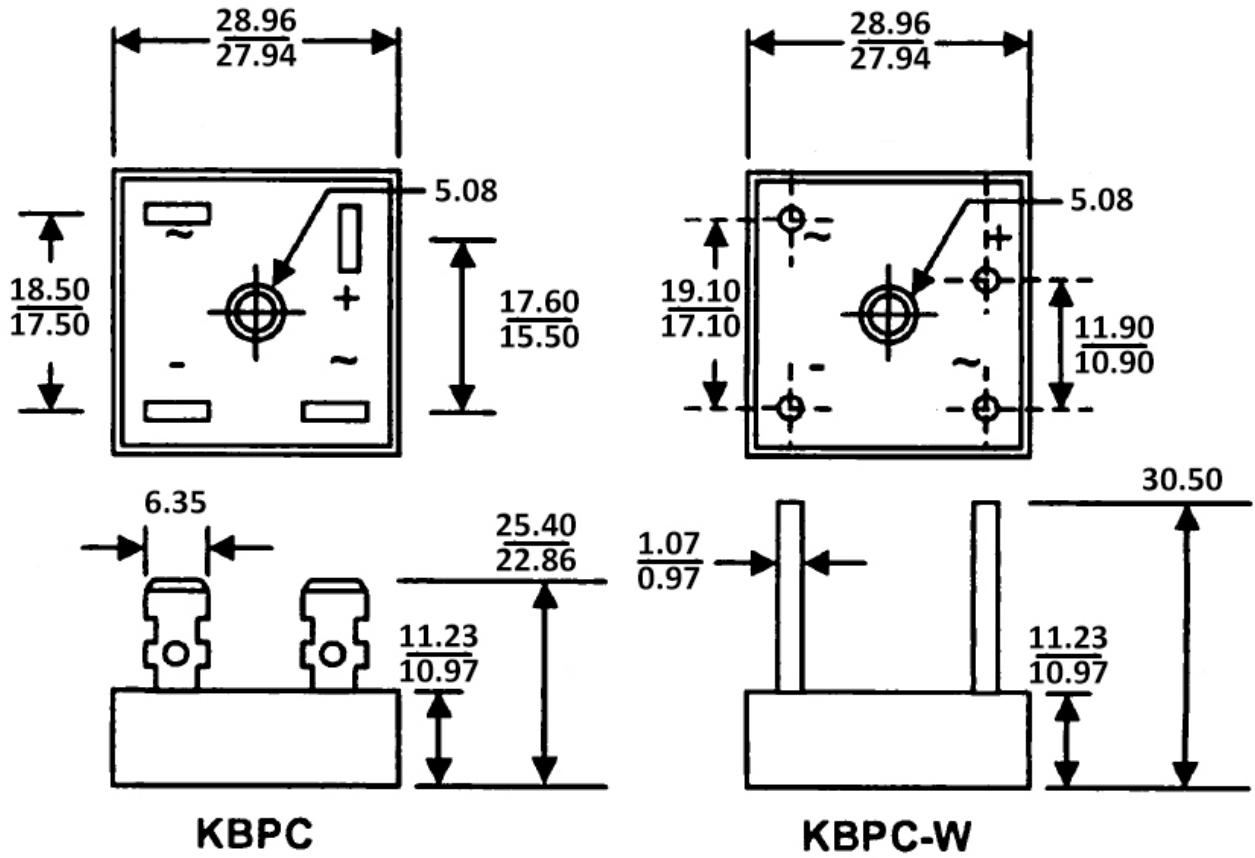
- Compact construction
- High surge current capability
- Low reverse leakage current
- Low power loss, high efficiency

\*"W" in marking indicate case with wire leads

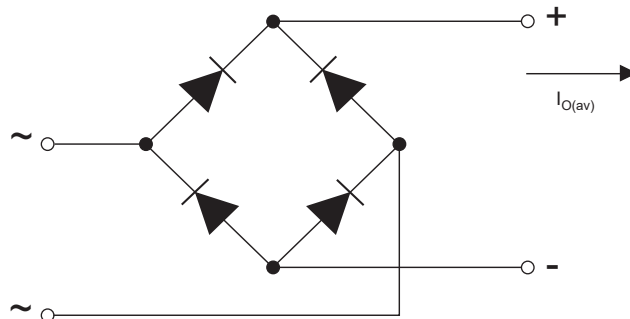
## MAXIMUM ALLOWABLE RATINGS AND ELECTRICAL CHARACTERISTICS

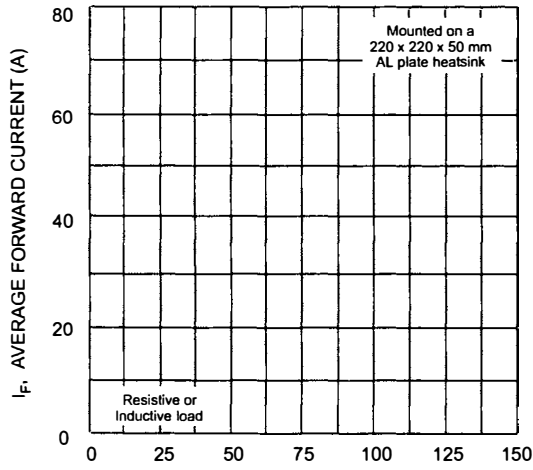
Symbols, parameters and values												Unit
$V_{RRM}$	Repetitive peak reverse voltage	50	100	200	400	600	800	1000	1200	1400	1600	V
$V_{R(RMS)}$	RMS reverse voltage	35	70	140	280	420	560	700	840	980	1120	V
$I_O$	Average rectified output current	$T_C = 60\text{ °C}$									15	A
$I_{FSM}$	Non repetitive peak forward surge current	$t_P = 8.3\text{ ms}$ $T_C = 25\text{ °C}$									450	A
$V_{FM}$	Forward voltage per leg	$I_F = 25\text{ A}$ $T_C = 25\text{ °C}$									1.2	V
$I_{RM}$	Peak reverse current At rated DC blocking Voltage	$T_C = 25\text{ °C}$									10	μA
		$T_C = 125\text{ °C}$									1.0	mA
$I^2t$	$I^2t$ rating for fusing	$t_P = 8.3\text{ ms}$ $T_C = 25\text{ °C}$									800	A <sup>2</sup> s
$C_j$	Typical junction capacitance	$T_C = 25\text{ °C}$									300	pF
$R_{th(jc)}$	Typical thermal resistance per leg	$T_C = 25\text{ °C}$									1.6	°C/W
$V_{ISOL}$	RMS isolation voltage from case to leads	$T_C = 25\text{ °C}$									2500	V
$T_j, T_{STG}$	Operation and storage temperature range										-65...+150	°C

## DIMENSIONS

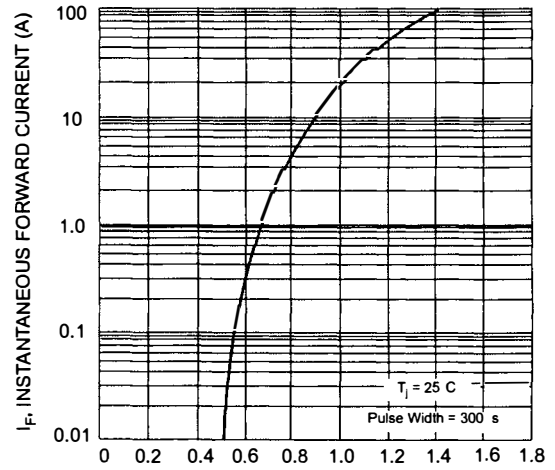


## TOPOLOGY OF INTERNAL CONNECTION

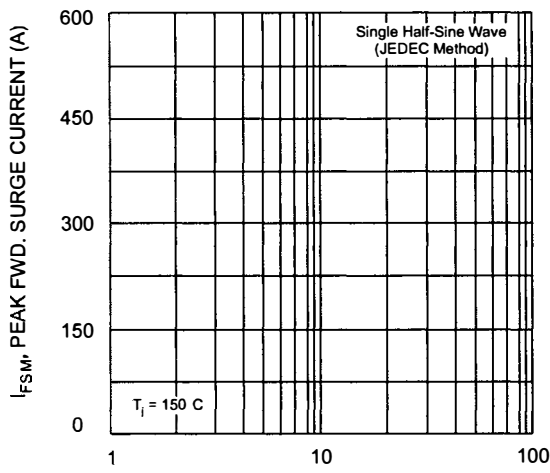




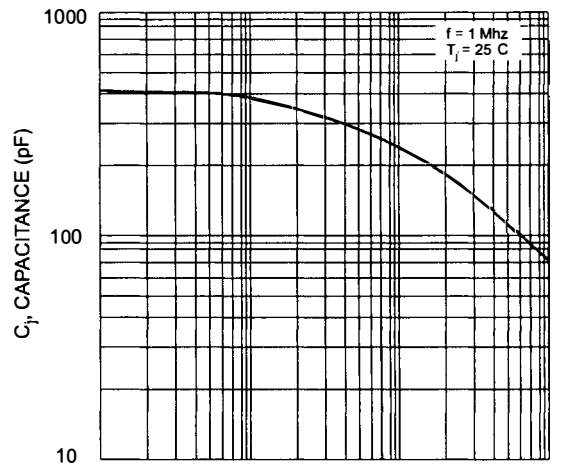
$T_A$ , AMBIENT TEMPERATURE ( C )  
Fig. 1 Forward Current Derating Curve



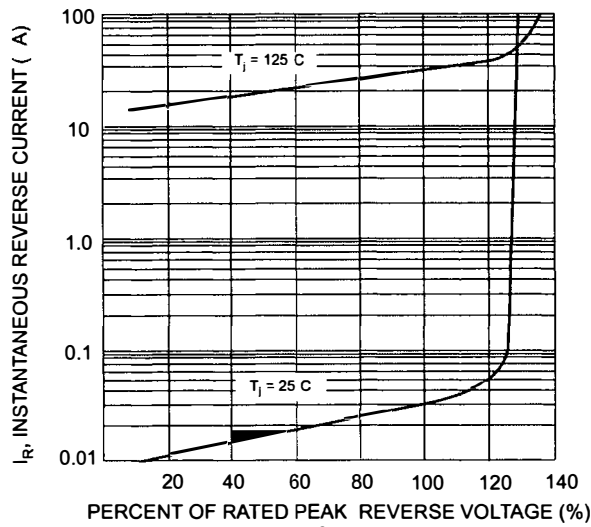
$V_F$ , INSTANTANEOUS FORWARD VOLTAGE ( V )  
Fig. 2 Typical Forward Characteristics (per element)



NUMBER OF CYCLES AT 60 Hz  
Fig. 3 Max Non-Repetitive Surge Current



$V_R$ , REVERSE VOLTAGE ( V )  
Fig. 4 Typical Junction Capacitance (per element)



PERCENT OF RATED PEAK REVERSE VOLTAGE (%)  
Fig. 5 Typical Reverse Characteristics (per element)