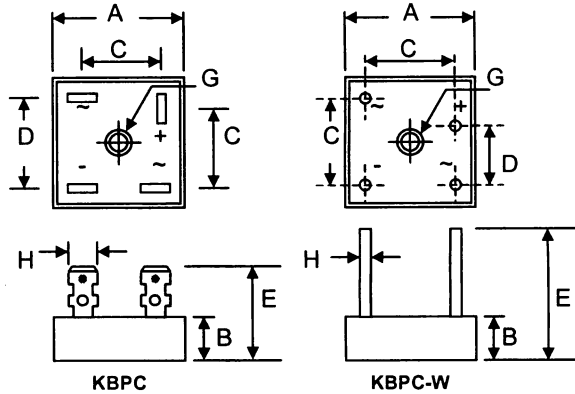


50A HIGH CURRENT SINGLE-PHASE BRIDGE RECTIFIER

Features

- Diffused Junction
- Low Reverse Leakage Current
- Low Power Loss, High Efficiency
- Electrically Isolated Metal Case for Maximum Heat Dissipation
- Case to Terminal Isolation Voltage 2500V



Mechanical Data

- Case: KBPC (Metal Case with Faston Lugs) or KBPC-W (Metal Case with Wire Leads)
- Terminals: Plated Faston Lugs or Wire Leads, Add "W" Suffix to Indicate Wire Leads
- Polarity: As Marked on Case
- Mounting: Through Hole with #10 Screw
- Mounting Torque: 23 cm-kg (20 in-lbs) Max.
- Weight: 30 grams (KBPC); 28 grams (KBPC-W)
- Marking: Type Number
- **Lead Free: For RoHS / Lead Free Version, Add "LF" Suffix to Date Code**

Dim	KBPC		KBPC-W	
	Min	Max	Min	Max
A	27.94	28.96	27.94	28.96
B	10.97	11.23	10.97	11.23
C	15.50	17.60	17.10	19.10
D	17.50	18.50	10.90	11.90
E	22.86	25.40	30.50	—
G	Hole for #10 screw, 5.08Ø Nominal			
H	6.35 Typical		0.97Ø	1.07Ø
All Dimension in mm				

Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

Single Phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	KBPC50										Unit
		05	01	02	04	06	08	10	12	14	16	
Peak Repetitive Reverse Voltage	V_{RRM}											V
Working Peak Reverse Voltage	V_{RWM}	50	100	200	400	600	800	1000	1200	1400	1600	
DC Blocking Voltage	V_R											
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	840	980	1120	V
Average Rectified Output Current @ $T_A = 60^\circ\text{C}$	I_O	50										A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	450										A
Forward Voltage per leg @ $I_F = 25\text{A}$	V_{FM}	1.2										V
Peak Reverse Current @ $T_C = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_C = 125^\circ\text{C}$	I_{RM}	10 1.0										μA mA
I^2t Rating for Fusing ($t < 8.3\text{ms}$)	I^2t	800										A^2s
Typical Junction Capacitance (Note 1)	C_j	300										pF
Typical Thermal Resistance per leg (Note 2)	$R_{\theta JC}$	1.6										$^\circ\text{C}/\text{W}$
RMS Isolation Voltage from Case to Leads	V_{ISO}	2500										V
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150										$^\circ\text{C}$

Note: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.
 2. Thermal resistance junction to case, mounted on heatsink.

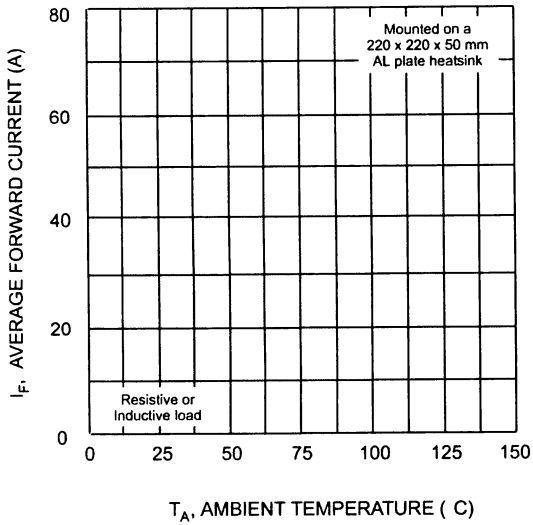


Fig. 1 Forward Current Derating Curve

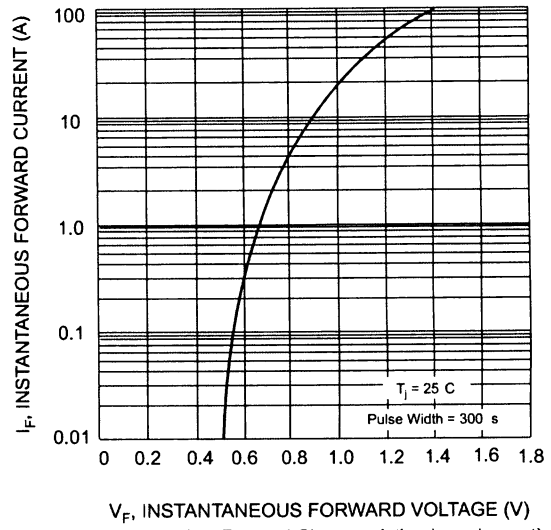


Fig. 2 Typical Forward Characteristics (per element)

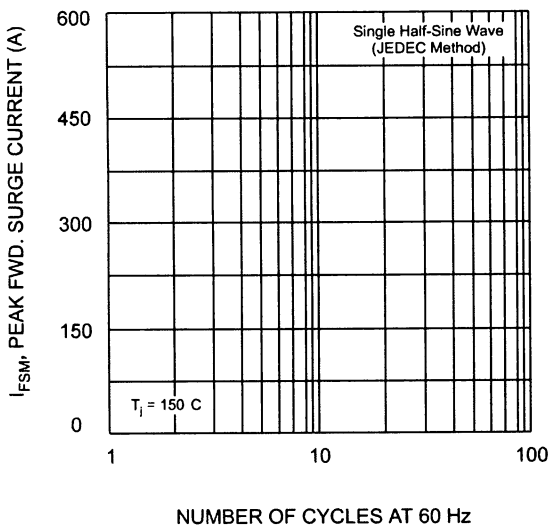


Fig. 3 Max Non-Repetitive Surge Current

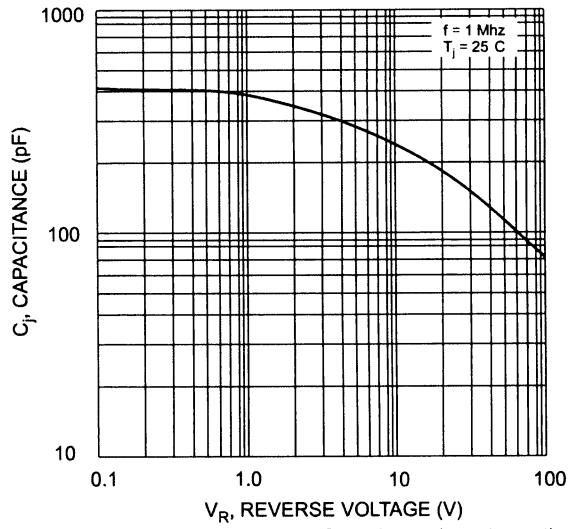


Fig. 4 Typical Junction Capacitance (per element)

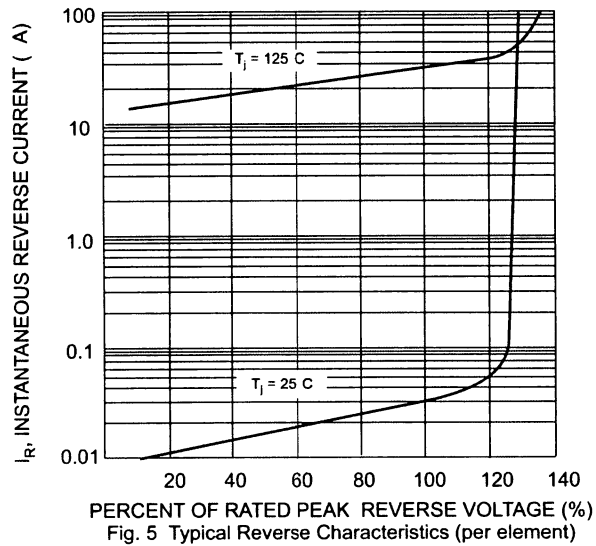


Fig. 5 Typical Reverse Characteristics (per element)