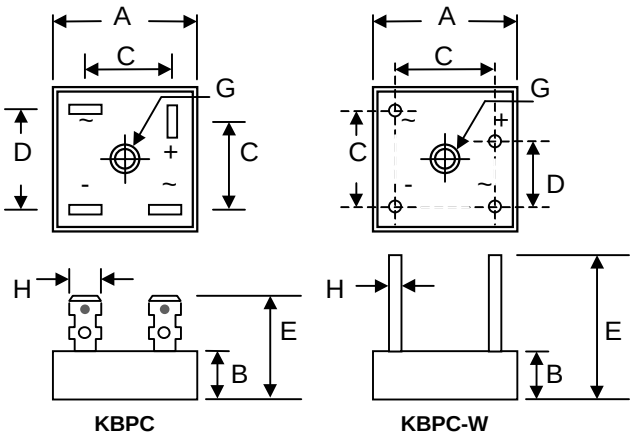
KBPC50 SERIES

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
- Recognized File # E157705



	KBPC		KBPC-W	
Dim	**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				

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 Part Number, See Page 4**

Maximum Ratings and Electrical Characteristics @T_A=25°C unless otherwise specified

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

Characteristic	Symbol	KBPC50										Unit
		00	01	02	04	06	08	10	12	14	16	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	200	400	600	800	1000	1200	1400	1600	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	840	980	1120	V
Average Rectified Output Current @T_A = 60°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 = 25A	V_{FM}	1.2										V
Peak Reverse Current @T_C = 25°C At Rated DC Blocking Voltage @T_C = 125°C	I_{RM}	10 1.0										μA mA
I^2t Rating for Fusing (t < 8.3ms)	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										°C/W
RMS Isolation Voltage from Case to Leads	V_{ISO}	2500										V
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150										°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.

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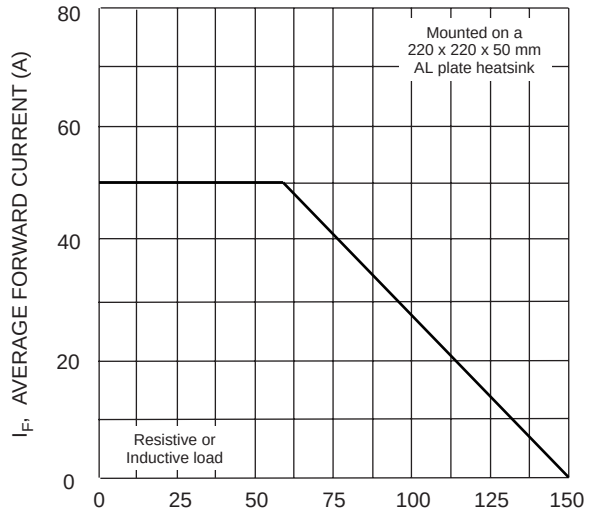


Fig. 1 Forward. Current Derating Curve

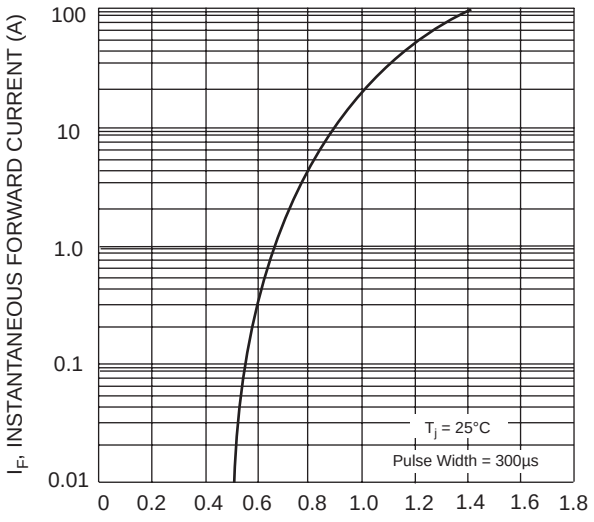


Fig. 2 Typical Forward Characteristics (per element)

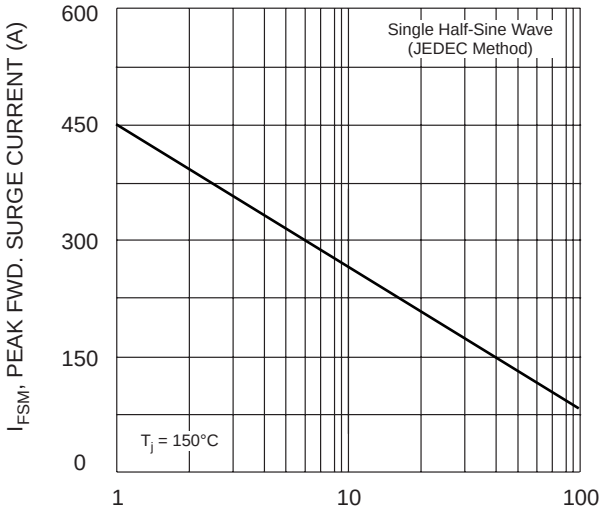


Fig. 3 Max Non-Repetitive Surge Current

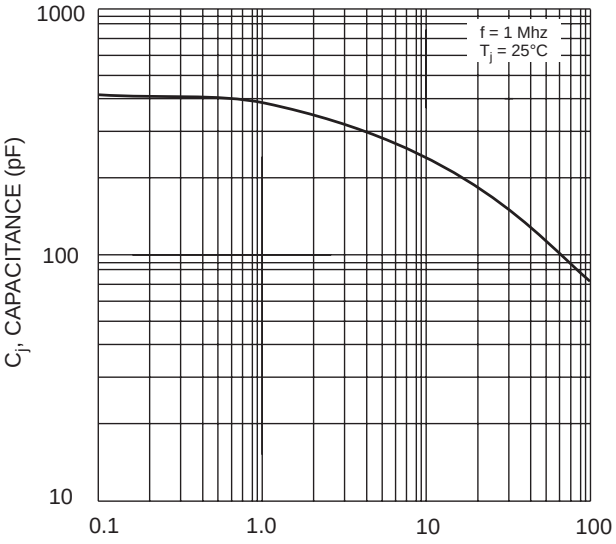


Fig. 4 Typical Junction Capacitance (per element)

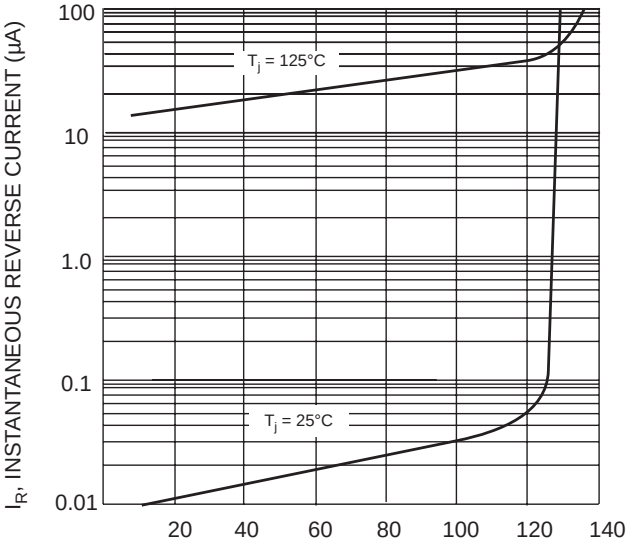
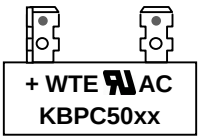


Fig. 5 Typical Reverse Characteristics (per element)

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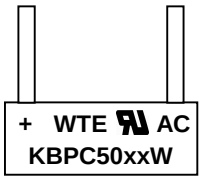
MARKING INFORMATION

KBPC



WTE = Manufacturer's Logo
KBPC50xx = Device Number
xx = 00, 01, 02, 04, 06, 08, 10, 12, 14 or 16
Polarity = As Marked on Body

KBPC-W



WTE = Manufacturer's Logo
KBPC50xxW = Device Number
xx = 00, 01, 02, 04, 06, 08, 10, 12, 14 or 16
Polarity = As Marked on Body

PACKAGING INFORMATION

BULK

Case Style	Inner Box Size L x W x H (mm)	Quantity (PCS)	Carton Size L x W x H (mm)	Quantity (PCS)	Approx. Gross Weight (KG)
KBPC	195 x 195 x 40	50	405 x 205 x 240	500	17.0
KBPC-W	195 x 195 x 40	50	405 x 205 x 240	500	16.0

Note: 1. Paper box, white or brown color.

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ORDERING INFORMATION

Product No.	Package Type	Shipping Quantity
KBPC5000	Square Bridge	50 Units/Box
KBPC5000W	Square Bridge	50 Units/Box
KBPC5001	Square Bridge	50 Units/Box
KBPC5001W	Square Bridge	50 Units/Box
KBPC5002	Square Bridge	50 Units/Box
KBPC5002W	Square Bridge	50 Units/Box
KBPC5004	Square Bridge	50 Units/Box
KBPC5004W	Square Bridge	50 Units/Box
KBPC5006	Square Bridge	50 Units/Box
KBPC5006W	Square Bridge	50 Units/Box
KBPC5008	Square Bridge	50 Units/Box
KBPC5008W	Square Bridge	50 Units/Box
KBPC5010	Square Bridge	50 Units/Box
KBPC5010W	Square Bridge	50 Units/Box
KBPC5012	Square Bridge	50 Units/Box
KBPC5012W	Square Bridge	50 Units/Box
KBPC5014	Square Bridge	50 Units/Box
KBPC5014W	Square Bridge	50 Units/Box
KBPC5016	Square Bridge	50 Units/Box
KBPC5016W	Square Bridge	50 Units/Box

1. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
2. **To order Lead Free version (with Lead Free finish), add "-LF" suffix to part number above. For example, KBPC5000-LF.**

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WARNING: DO NOT USE IN LIFE SUPPORT EQUIPMENT. WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

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