

Glass Passivated Single-Phase Bridge Rectifier



Case Style KBPM

FEATURES

- UL recognition file number E54214
- Ideal for printed circuit board
- High surge current capability
- High case dielectric strength
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



RoHS
COMPLIANT

TYPICAL APPLICATIONS

General purpose use in ac-to-dc bridge full wave rectification for switching power supply, home appliances, office equipment, and telecommunication applications.

MECHANICAL DATA

Case: KBPM

Epoxy meets UL 94V-0 flammability rating

Terminals: Silver plated leads, solderable per J-STD-002 and JESD22-B102

E4 suffix for consumer grade

Polarity: As marked on body

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	2 A
V_{RRM}	50 V to 1000 V
I_{FSM}	60 A
I_R	5 μ A
V_F	1.1 V
T_J max.	165 °C

MAXIMUM RATINGS ($T_A = 25\text{ °C}$ unless otherwise noted)									
PARAMETER	SYMBOL	2KBP 005M	2KBP 01M	2KBP 02M	2KBP 04M	2KBP 06M	2KBP 08M	2KBP 10M	UNIT
		3N253	3N254	3N255	3N256	3N257	3N258	3N259	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Max. average forward output rectified current at $T_A = 55\text{ °C}$	$I_{F(AV)}$	2.0							A
Peak forward surge current single half sine-wave superimposed on rated load	I_{FSM}	60							A
Rating for fusing ($t < 8.3\text{ ms}$)	I^2t	15							A ² s
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 165							°C

ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)										
PARAMETER	TEST CONDITIONS	SYMBOL	2KBP 005M	2KBP 01M	2KBP 02M	2KBP 04M	2KBP 06M	2KBP 08M	2KBP 10M	UNIT
			3N253	3N254	3N255	3N256	3N257	3N258	3N259	
Maximum instantaneous forward voltage drop per diode	3.14 A	V_F	1.1							V
Maximum DC reverse current at rated DC blocking voltage per diode	$T_A = 25\text{ }^\circ\text{C}$ $T_A = 125\text{ }^\circ\text{C}$	I_R	5.0 500							μA
Typical junction capacitance per diode	4.0 V, 1 MHz	C_J	25							pF

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)										
PARAMETER	SYMBOL	2KBP 005M	2KBP 01M	2KBP 02M	2KBP 04M	2KBP 06M	2KBP 08M	2KBP 10M	UNIT	
		3N253	3N254	3N255	3N256	3N257	3N258	3N259		
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$ $R_{\theta JL}$	30 11							$^\circ\text{C/W}$	

Note:

(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with, 0.47 x 0.47" (12 x 12 mm) copper pads

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
2KBP06M-E4/45	1.895	45	30	Tube
2KBP06M-E4/51	1.895	51	600	Anti-static PVC tray
3N257-E4/45	1.895	45	30	Tube
3N257-E4/51	1.895	51	600	Anti-static PVC tray

RATINGS AND CHARACTERISTICS CURVES

($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

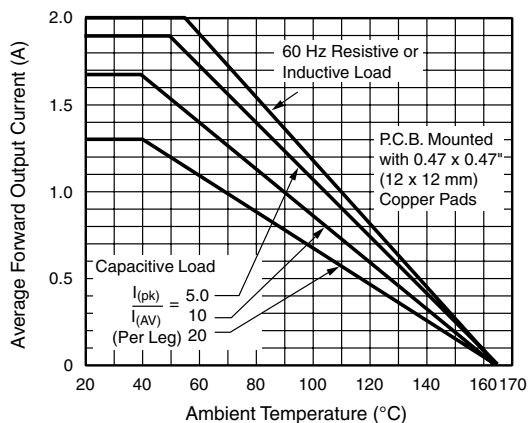


Figure 1. Derating Curve Output Rectified Current

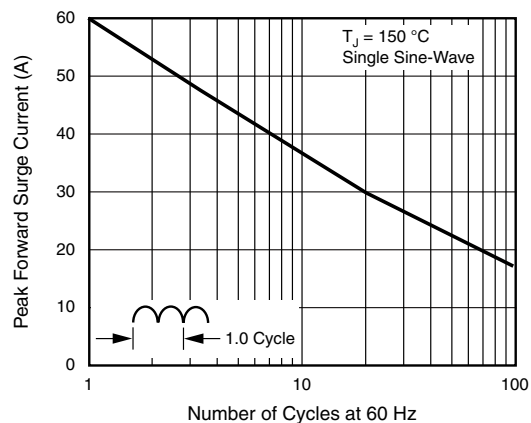


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

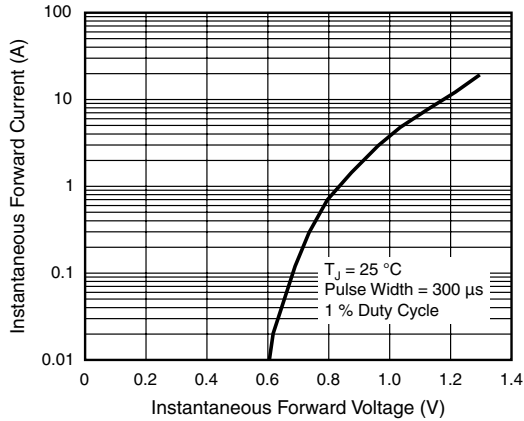


Figure 3. Typical Forward Characteristics Per Diode

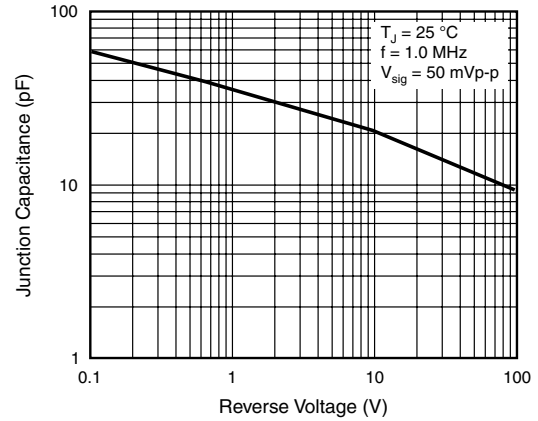


Figure 5. Typical Junction Capacitance Per Diode

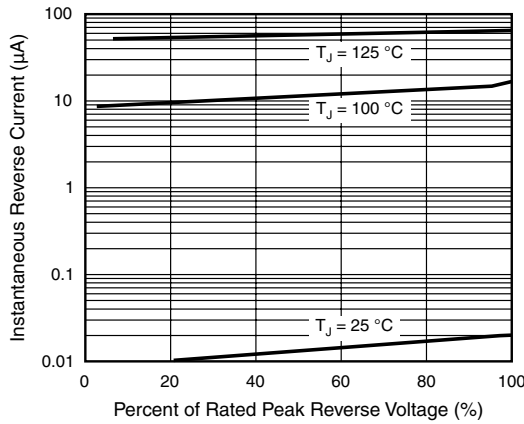


Figure 4. Typical Reverse Leakage Characteristics Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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