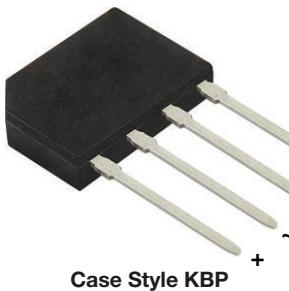
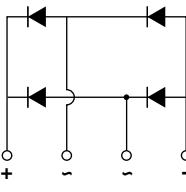


Low V_F Single-Phase Single In-Line Bridge Rectifier


Case Style KBP

Case Style KBP

FEATURES

- UL recognition file number E54214
- Oxide planar chip junction
- Low forward voltage drop
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Ideal for printed circuit boards
- High surge current capability
- High case dielectric strength of 1500 V_{RMS}
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	4 A
V_{RRM}	800 V
I_{FSM}	130 A
V_F at $I_F = 2$ A ($T_J = 125$ °C)	0.68 V
T_J max.	175 °C
Package	KBP
Circuit configuration	In-line

TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for electronic devices, fast charger, adapter, and home appliances applications.

MECHANICAL DATA

Case: KBP

Molding compound meets UL 94 V-0 flammability rating

Base P/N-M3 - halogen-free, RoHS-compliant, and industrial grade

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

M3 suffix meet JESD 201 class 1A whisker test

Polarity: as marked on body

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)			
PARAMETER	SYMBOL	KBPE0480	UNIT
Device marking code		KBPE0480	
Maximum repetitive peak reverse voltage	V_{RRM}	800	V
Maximum RMS voltage	V_{RMS}	560	V
Maximum DC blocking voltage	V_{DC}	800	V
Maximum average forward rectified output current at $T_C = 150$ °C	I_O ⁽¹⁾	4	A
$T_A = 25$ °C	I_O ⁽²⁾	2.1	
Non-repetitive peak forward surge current 8.3 ms single sine-wave, $T_J = 25$ °C	I_{FSM}	130	A
Non-repetitive peak forward surge current 1.0 ms single sine-wave, $T_J = 25$ °C	I_{FSM}	260	A
Rating for fusing ($t < 8.3$ ms)	I^2t	70	A ² s
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +175	°C

Notes

(1) Unit case mounted on 15 x 5.7 x 5.5 cm heatsink

(2) Units mounted on PCB without heatsink

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT
Maximum instantaneous forward voltage drop per diode	$I_F = 2\text{ A}$	$T_J = 25^\circ\text{C}$	V_F ⁽¹⁾	0.82	0.9	V
		$T_J = 125^\circ\text{C}$		0.68	-	
Maximum DC reverse current at rated DC blocking voltage per diode	$V_R = 800\text{ V}$	$T_J = 25^\circ\text{C}$	I_R ⁽²⁾	0.03	5	μA
		$T_J = 125^\circ\text{C}$		17.5	-	
Typical reverse recovery time	$I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $I_{rr} = 0.25\text{ A}$	t_{rr}		250	-	ns
Typical junction capacitance per diode	4.0 V, 1 MHz	C_J		70	-	pF

Notes

(1) Pulse test: 300 μs pulse width, 1 % duty cycle

(2) Pulse test: pulse width $\leq 40\text{ ms}$

THERMAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	KBPE0480	UNIT
Typical thermal resistance	$R_{\theta JA}$ ⁽¹⁾⁽²⁾	50	$^\circ\text{C/W}$
	$R_{\theta JC}$ ⁽³⁾	3.7	

Notes

(1) The heat generated must be less than the thermal conductivity from junction-to-ambient: $dP_D/dT_J < 1/R_{\theta JA}$

(2) Thermal resistance junction-to-ambient to follow JEDEC® 51-2A, device mounted on FR4 PCB, 2 oz.

(3) Thermal resistance junction-to-mount to follow JEDEC® 51-14 transient dual interface test method (TDIM)

ORDERING INFORMATION				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
KBPE0480-M3/P	1.42	P	25	Tube

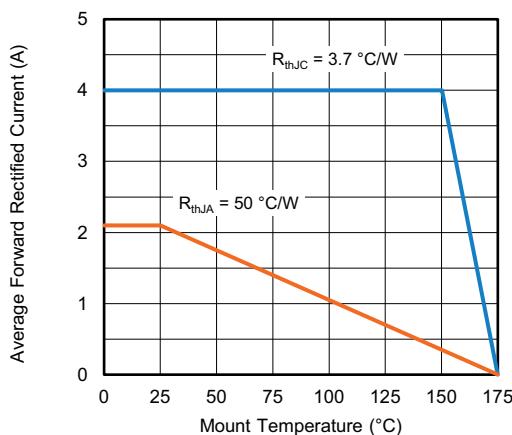
RATINGS AND CHARACTERISTICS CURVES ($T_A = 25^\circ\text{C}$ unless otherwise noted)


Fig. 1 - Derating Curve Output Rectified Current

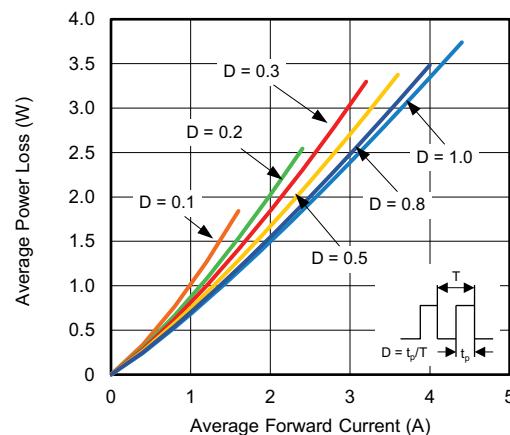


Fig. 2 - Forward Power Loss Characteristics Per Diode

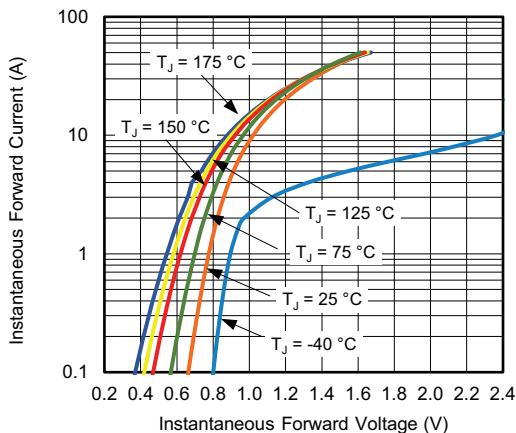


Fig. 3 - Typical Forward Characteristics Per Diode

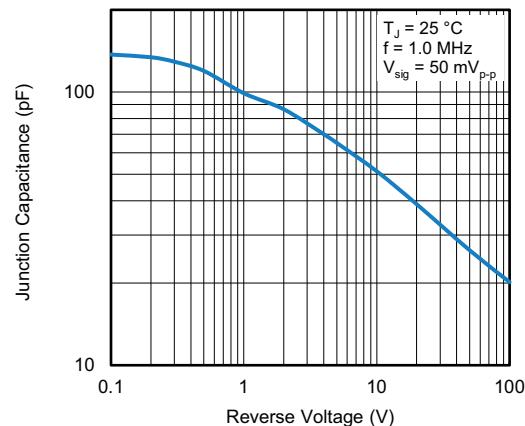


Fig. 5 - Typical Junction Capacitance Per Diode

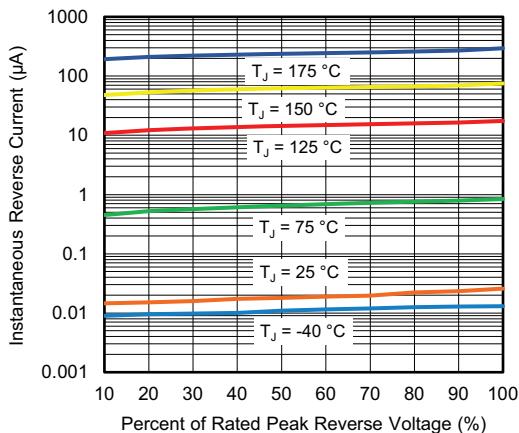


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

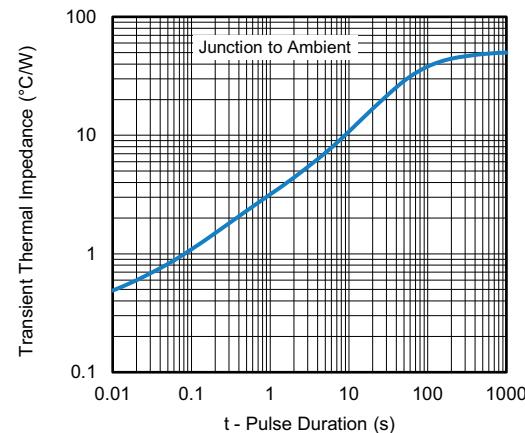
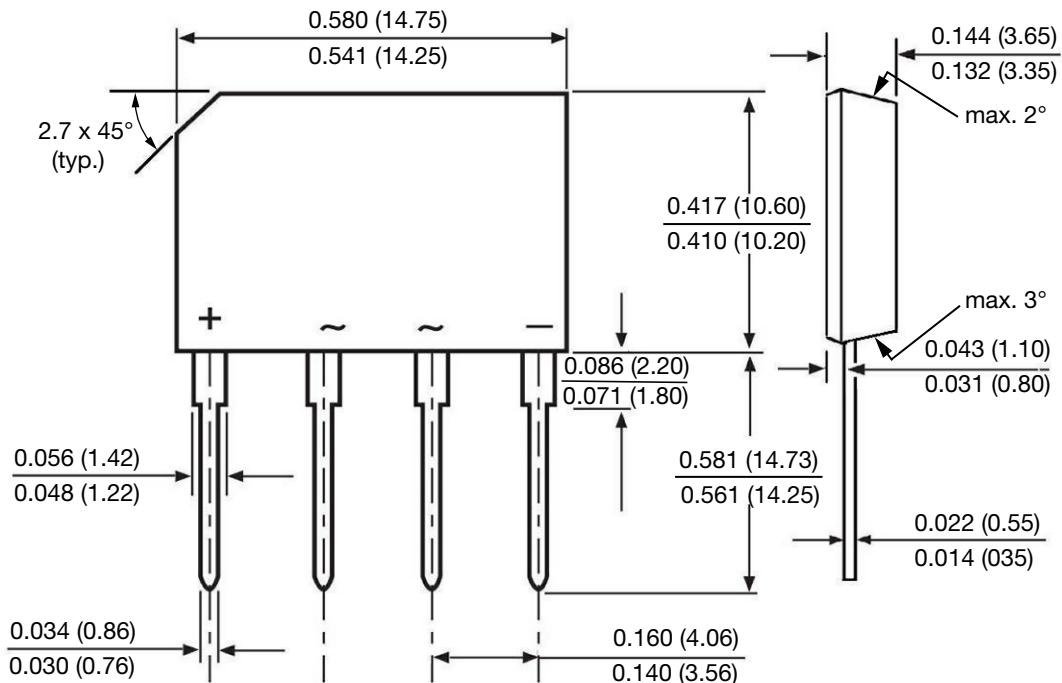


Fig. 6 - Typical Transient Thermal Impedance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

KBP



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