

Product Summary (@T_A = +25°C)

V _{RRM} (V)	I _O (A)	V _F (V)	I _R (μA)
1000	4	1.3	5

Description and Applications

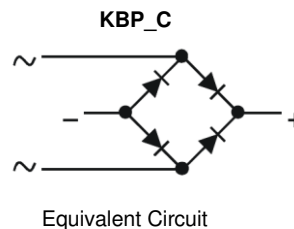
Suitable for AC to DC bridge full wave rectification for AC-DC power supply, LED lighting, home appliances, office equipment, and telecommunication applications.

Features and Benefits

- Glass Passivated Die Construction
- Filter Rectifier with EMI Design Friendly
- Rated at 1000V PRV
- Low Reverse Leakage Current
- Surge Overload Rating to 100A Peak
- Ideal for Printed Circuit Board Applications
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](mailto:contact@diodes.com) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

Mechanical Data

- Case: KBP_C
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Terminals: Finish – Tin. Plated Leads, Solderable per MIL-STD-202, Method 208 @3
- Polarity: Marked on Body
- Weight: 1.265 grams (Approximate)

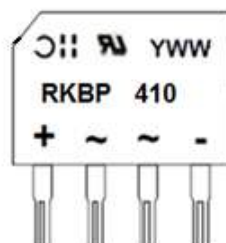


Ordering Information (Note 4)

Part Number	Compliance	Case	Packaging
RKBP410	Commercial	KBP_C	35 Pieces per Tube

- Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
 2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 4. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

Marking Information



RKBP410 = Product Type Marking Code
 311 = Manufacturer's Code Marking
 YWW = Date Code Marking
 Y = Last Digit of Year (ex: 1 = 2021)
 WW = Week Code (01 to 53)

Maximum Ratings (@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	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _{RM}	1000	V
Average Rectified Output Current @T _C = +105°C	I _O	4	A
Non-Repetitive Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	100	A
I ² t Rating for Fusing (3ms ≤ t ≤ 8.3ms)	I ² t	41.5	A ² s

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Case (Note 5)	R _{θJC}	5	°C/W
Typical Thermal Resistance, Junction to Lead (Note 5)	R _{θJL}	7	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	V _{(BR)R}	1,000	—	—	V	I _R = 5μA
Forward Voltage Drop per Element (Note 7)	V _F	—	— 1.0	1.3 —	V	I _F = 4A, T _J = +25°C I _F = 4A, T _J = +125°C
Leakage Current (Note 6)	I _R	—	— 61	5 200	μA	V _R = 1000V, T _J = +25°C V _R = 1000V, T _J = +125°C
Reverse Recovery Time	t _{RR}	—	—	250	ns	I _F = 0.5A, I _{RR} = 0.25A, I _R = 1.0A
Total Capacitance per Element	C _T	—	40	—	pF	V _R = 4V _{DC} , f = 1MHz

Notes: 5. Thermal resistance per element. The unit mounted on fin-type heatsink (40mm x 23mm x 15.9mm).
6. Short duration pulse test used to minimize self-heating effect.
7. 300μs pulse width, 2% duty cycle.

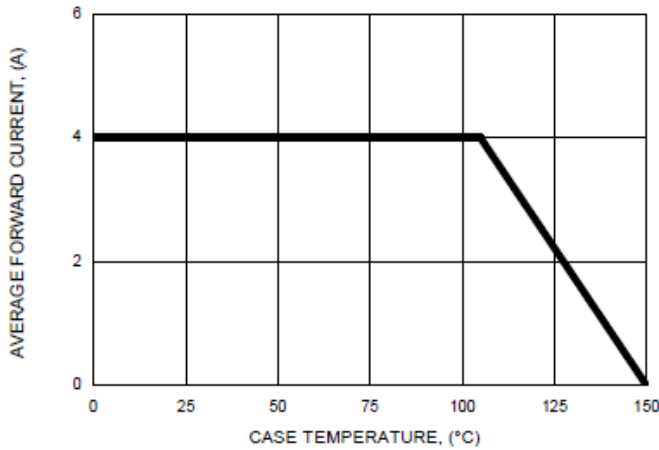


FIG.1-FORWARD CURRENT DERATING CURVE

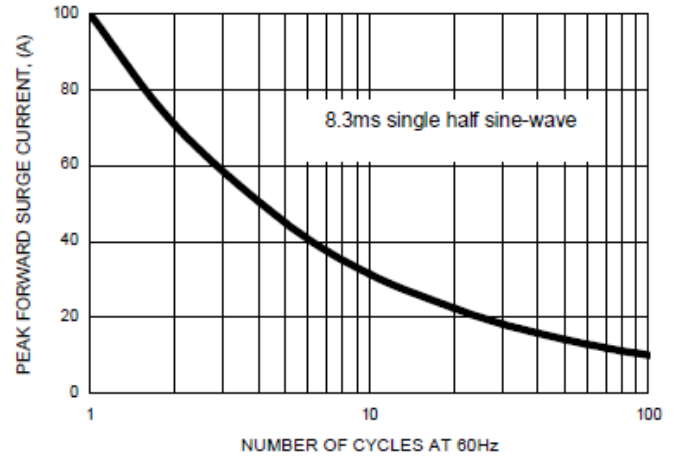


FIG.2-MAXIMUM NON-REPETITIVE SURGE CURRENT

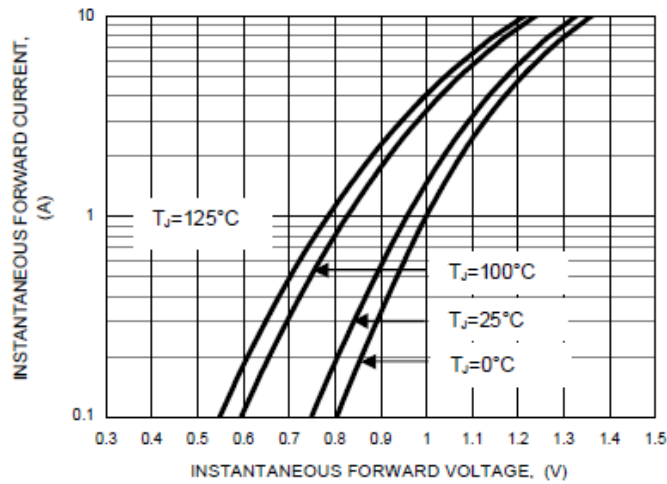


FIG.3-TYPICAL FORWARD CHARACTERISTICS

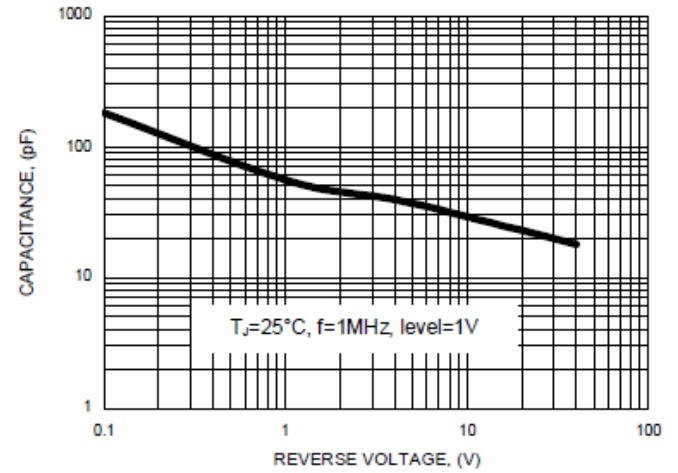


FIG.4-TYPICAL JUNCTION CAPACITANCE

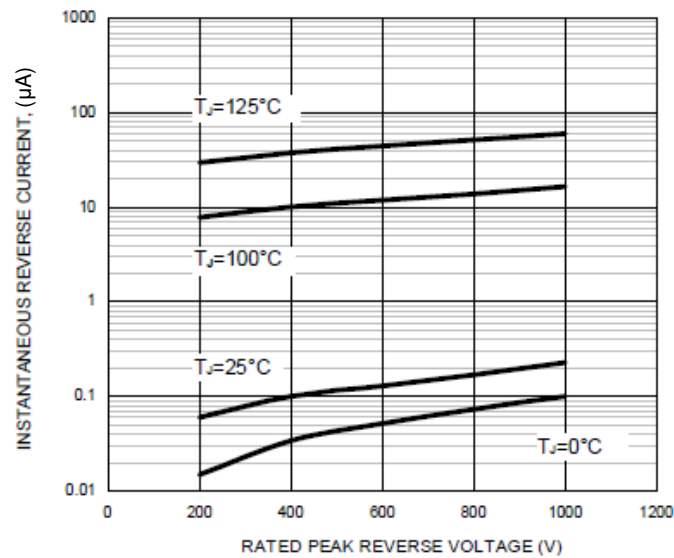
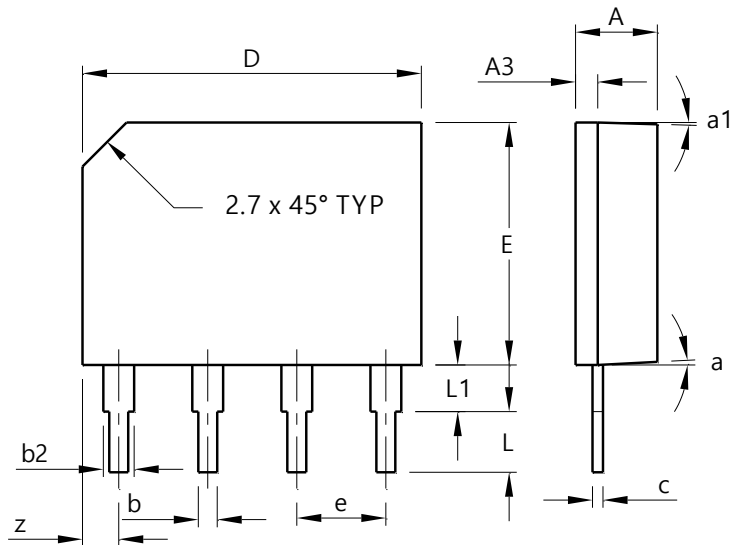


FIG.5-TYPICAL REVERSE CHARACTERISTICS

Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

KBP_C



KBP_C			
Dim	Min	Max	Typ
A	3.35	3.65	-
A3	0.80	1.10	-
b	0.76	0.86	-
b2	1.22	1.42	-
c	0.35	0.55	-
D	14.25	14.75	-
E	10.20	10.60	-
e	3.56	4.06	-
L	2.40	2.80	-
L1	1.80	2.20	-
z	1.40	1.70	-
a	-	-	3°
a1	-	-	2°
All Dimensions in mm unless otherwise specified			

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