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RKBP410

4A FAST BRIDGE RECTIFIER

Product Summary (@T_A = +25°C)

V_{RRM} (V)	I_O (A)	V_F (V)	I_R (µA)
1000	4	1.3	5

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
- UL Recognized File # E95060
- **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-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please contact us or your local Diodes representative. https://www.diodes.com/quality/product-definitions/**

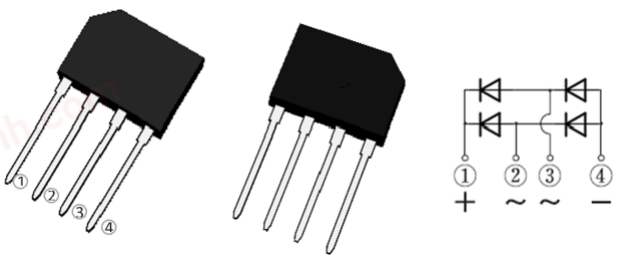
Description and Applications

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

Mechanical Data

- Package: KBP_C
- Package Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Terminals: Finish – Tin Plated Leads. Solderable per MIL-STD-202, Method 208 e3
- Polarity: Marked on Body
- Weight: 1.265 grams (Approximate)

KBP_C

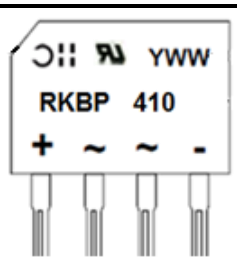


Ordering Information (Note 4)

Orderable Part Number	Package	Packing	
		Qty.	Carrier
RKBP410	KBP_C	35 Pieces	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
= Manufacturer's Code Marking
YWW = Date Code Marking
Y = Last Digit of Year (ex: 6 = 2026)
WW = Week Code (01 to 53)

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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^2t Rating for Fusing (3ms ≦ t ≦ 8.3ms)	I^2t	41.5	A^2s

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Case (Note 5)	$R_{\theta JC}$	5	°C/W
Typical Thermal Resistance, Junction to Lead (Note 5)	$R_{\theta JL}$	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.

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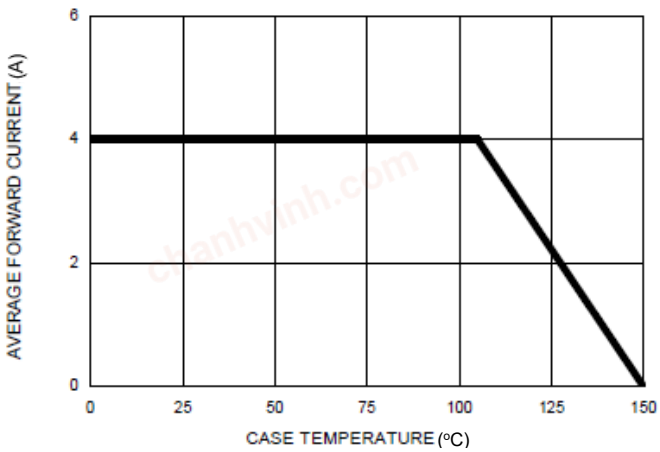


FIG.1-FORWARD CURRENT DERATING CURVE

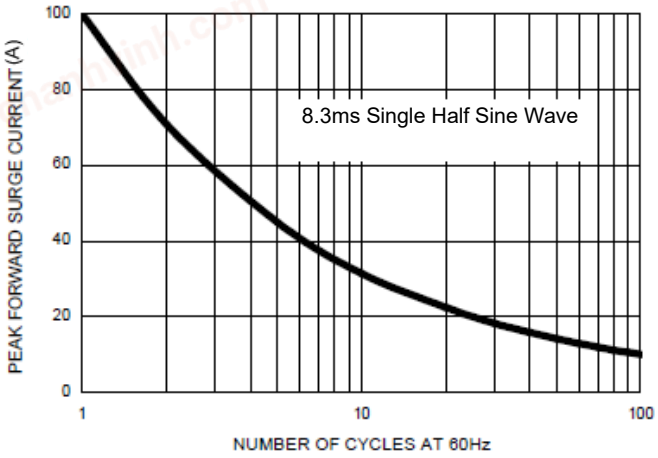


FIG.2-MAXIMUM NON-REPETITIVE SURGE CURRENT

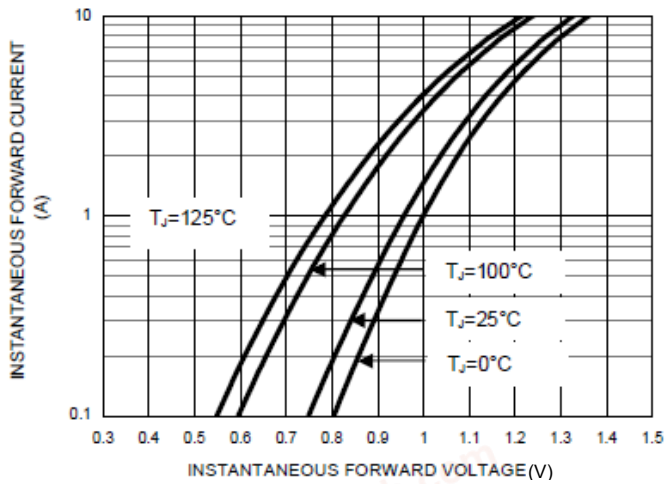


FIG.3-TYPICAL FORWARD CHARACTERISTICS

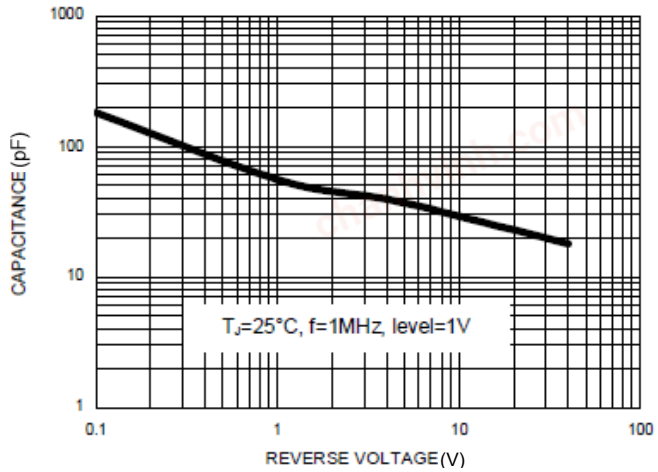


FIG.4-TYPICAL JUNCTION CAPACITANCE

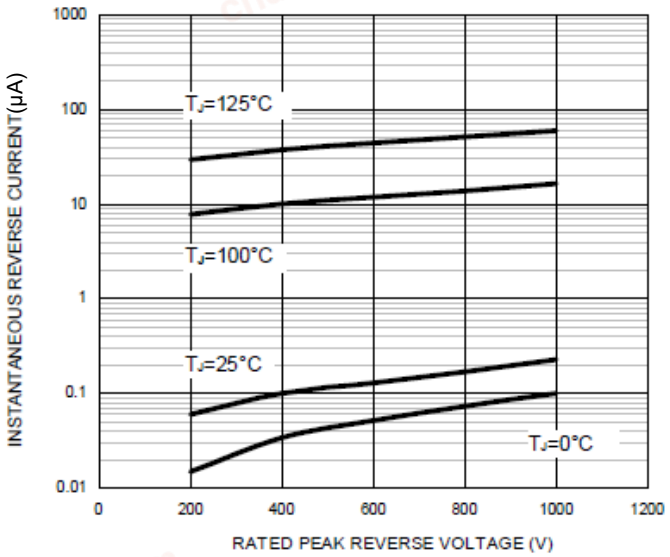


FIG.5-TYPICAL REVERSE CHARACTERISTICS

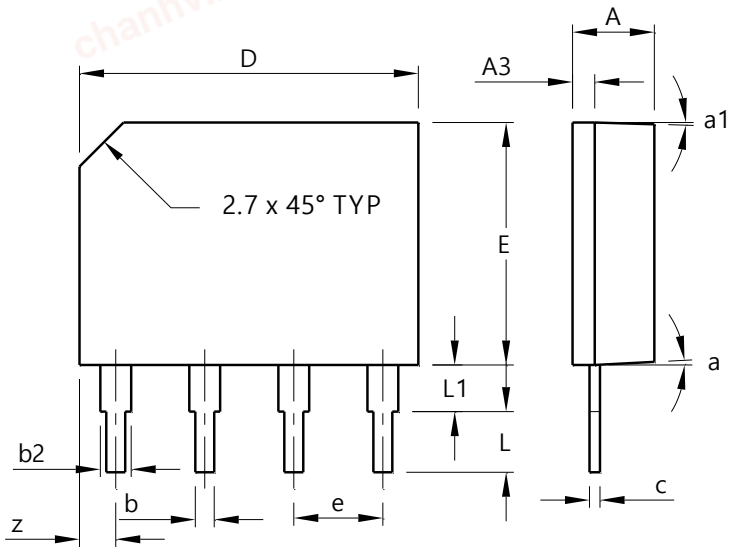
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Package Outline Dimensions

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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