

GLASS PASSIVATED BRIDGE RECTIFIERS

REVERSE VOLTAGE – 1000 Volts
FORWARD CURRENT – 4 Amperes

GENERAL DESCRIPTION

Suitable for AC-to-DC bridge full wave rectification for SMPS, LED lighting, Adapter, Battery charger, Home appliances, Office equipment, and Telecommunication

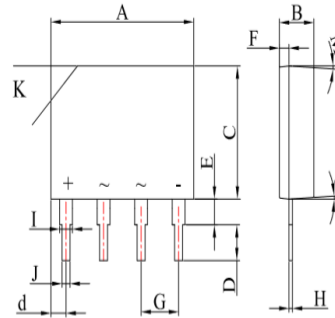
FEATURES

- Rated at 1000V PRV
- Ideal for printed circuit board
- Reliable low cost construction utilizing molded plastic technique
- Qualification is according to AEC-Q101 Rev_C
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

MECHANICAL DATA

- Package Material: "Green" Molding compound, UL flammability classification 94V-0, "Halogen-free".
- Polarity indicator: As marked on body
- Marking: RKBP410
- Weight: 1.33 grams (Approximate)

KBP_C



KBP_C		
DIM	MIN	MAX
A	14.25	14.75
B	3.35	3.65
C	10.20	10.60
D	2.40	2.80
d	1.40	1.70
E	1.80	2.20
F	0.80	1.10
G	3.56	4.06
H	0.35	0.55
I	1.22	1.42
J	0.76	0.86
K	2.7 x 45° (Typ)	
L	--	3°
M	--	2°

All dimensions in millimeters

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

ABSOLUTE RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	1000	V
Maximum DC blocking voltage	V_{DC}	1000	V
Average rectified forward current	$I_{(AV)}$	4	A
Peak forward surge 8.3ms single half sine-wave	I_{FSM}	100	A
I^2t Rating for fusing (1ms<t<8.3ms)	I^2t	41.5	A ² S
Operating and Storage temperature range	T_J, T_{STG}	-55 ~ +150	°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITION	SYMBOL	TYP	MAX	UNIT
Forward voltage (Note 4)	$I_F = 4A$ $T_J = 25^\circ C$ $T_J = 125^\circ C$	V_F	-- 1.0	1.3 --	V
Reverse leakage current	$V_R = 1000V$ $T_J = 25^\circ C$ $T_J = 125^\circ C$	I_R	-- 61	5 200	uA
Typical junction capacitance (Note 5)		C_J	40		pF

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Notes 6, 7)	R_{thJc} R_{thJL}	5 7	°C/W

DYNAMIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITION	SYMBOL	MAX	UNIT
Reverse recovery time	$I_F = 0.5A, I_{rr} = 0.25A, I_R = 1.0A$	T_{rr}	250	ns

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. 300us pulse width, 2% duty cycle.
5. Measured at 1.0MHz and applied reverse voltage of 4.0 V DC.
6. Thermal Resistance test performed in accordance with JESD-51.
7. The unit mounted on fin-type heatsink (40mm x 23mm x 15.9mm).

**RATING AND CHARACTERISTIC CURVES
RKBP410**

FIG.1- FORWARD CURRENT DERATING CURVE

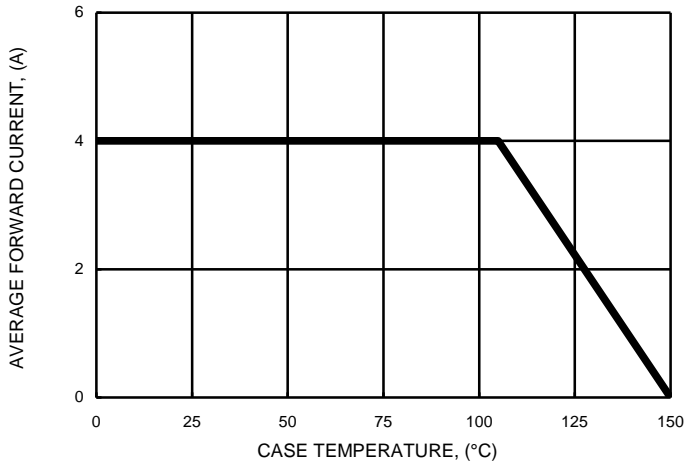


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

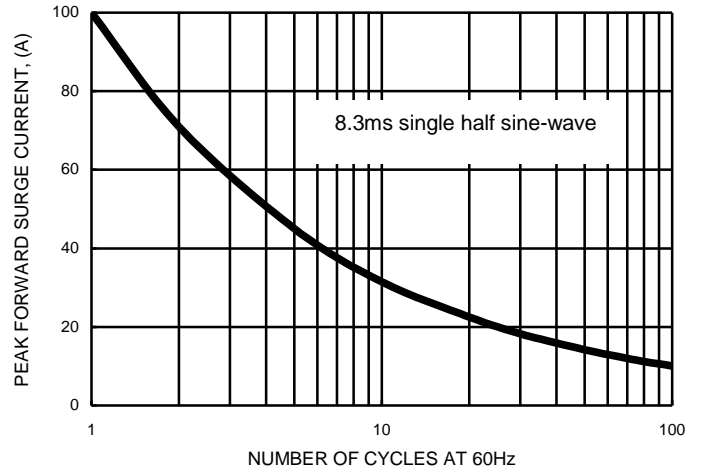


FIG.3- TYPICAL FORWARD CHARACTERISTICS

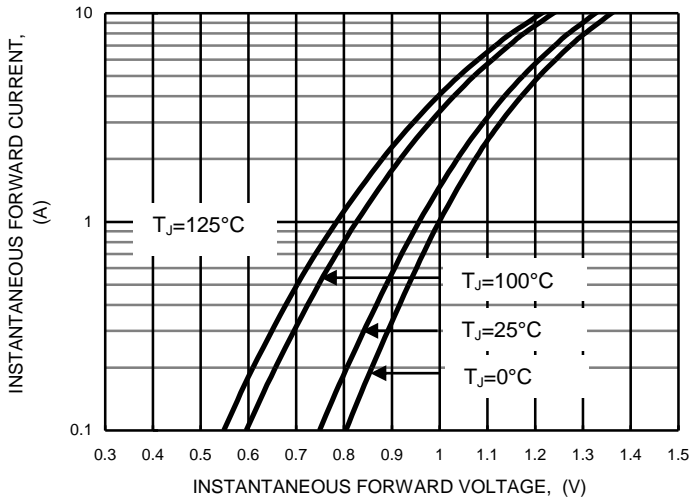


FIG.4- TYPICAL JUNCTION CAPACITANCE

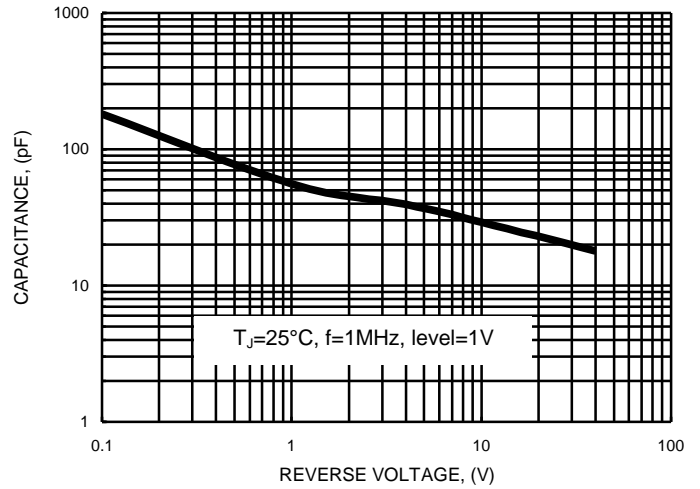
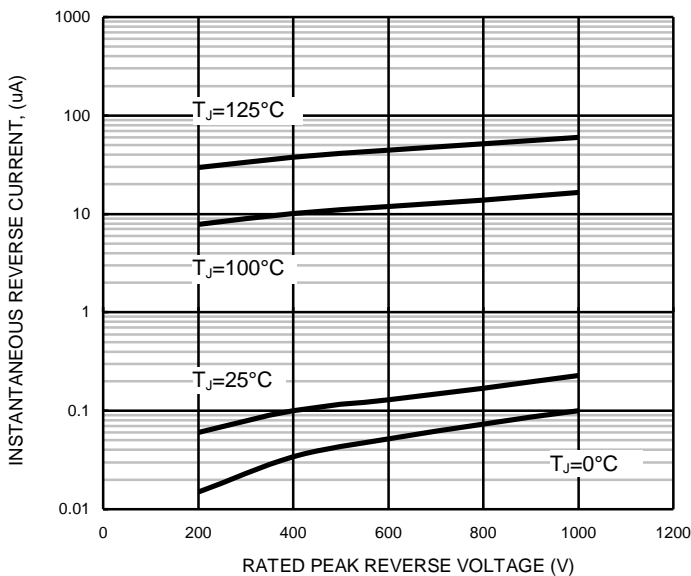


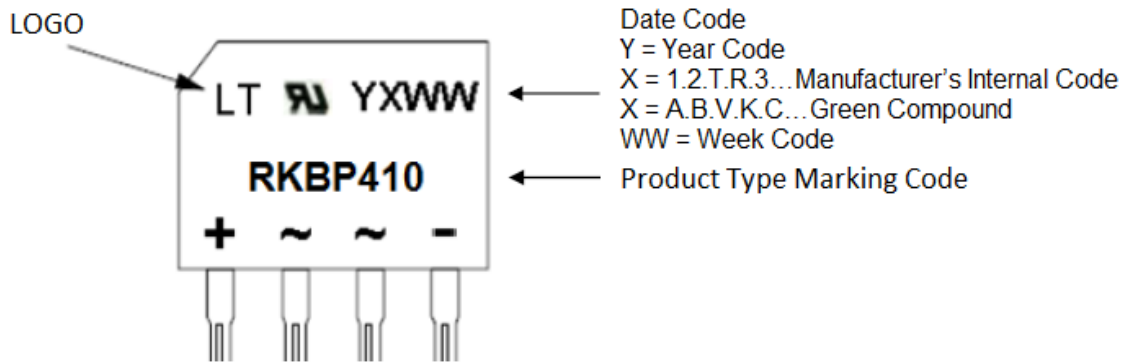
FIG.5- TYPICAL REVERSE CHARACTERISTICS



Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
RKBP410-LS	KBP_C	35pcs	Tube

Marking Information:



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