THE DATASHEET OF

KBP307

NextGen Components,Inc.

PART CODE: KPB3070000L360

SPECIFICATION SHEET

SPECIFICATION SHEET NO.	N0626-KPB3070000L360
DATE	June 26, 2021
REVISION	A0
DESCRIPITION	Thru Hole Single Bridge Rectifier, KBP Series, KPB307 Type, 4 Pins Reverse Voltage 600V Max. Forward Current 3.0A Max. Operating Temp. Range -55°C ~+150°C, Package in Bulk, 500pcs/Box RoHS/RoHS III compliant
CUSTOMER	
CUSTOMER PART NUMBER	
CROSS REF. PART NUMBER	
ORIGINAL PART NUMBER	MDD KBP307
PART CODE	KPB3070000L360

VENDOR APPROVE			
Issued/Checked/Approved	NextGen Components, Inc. Mandy Xu	NextGen Components, Inc. Ruby Zhang	NextGen Components, Inc. Jack Zhang
DATE: June 26, 2021			

CUSTOMER APPROVE
DATE:

NextGen Components,Inc.

PART CODE: **KPB3070000L360**

THRU HOLE BRIDGE RECTIFER KBP SERIES

MAIN FEATURE

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated die construction
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed 260 °C/10 seconds

APPLICATION

- For printed circuit board

RFQ
Request For Quotation

PART CODE GUIDE

KBP	3070000	L	360
1	2	3	4

1) **KBP**: Thru Hole Single Bridge Rectifier, KBP Series

2) **30700000**: Type code for original part number KBP307

3) **L**: Package code, In Bulk, 500pcs/Box.

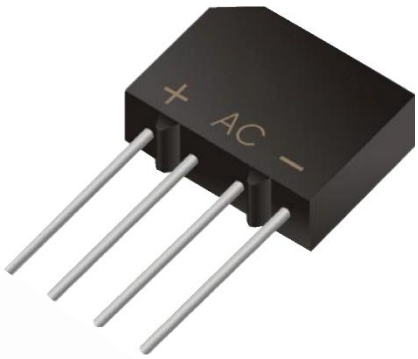
4) **360:** Specification code for Reverse Voltage 600V Max. Forward Current 3.0A Max.

MORE ITEMS AVAILABLE

KPB2005000L205	KPB2010000L210	KPB2020000L220	KPB2040000L240	KPB2060000L260
KPB2080000L280	KPB2100000L20A			
KPB3005000L305	KPB3010000L310	KPB3020000L320	KPB3040000L340	**KPB3070000L360**
KPB3080000L380	KPB3100000L30A			

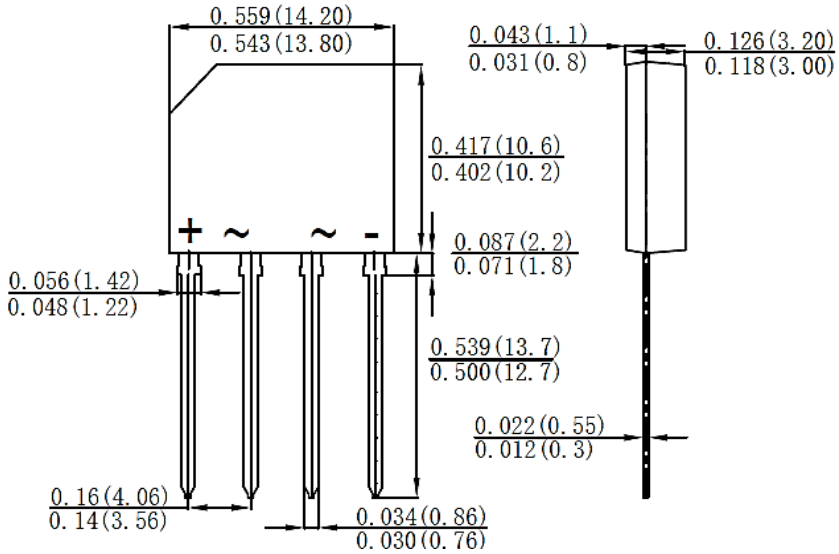
DIMENSION (Unit: Inch/mm)

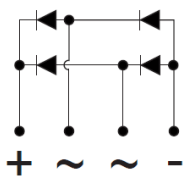
Image for reference



Marking: KBP307

KBP





THRU HOLE BRIDGE RECTIFER KBP SERIES

MECHANICAL DATA

Case	Terminals	Polarity	Mounting Position	Weight per piece
JEDEC KBP molded plastic body	Solder plated, Solderable per MIL-STD-750, Method 2026	Polarity symbol marking on body	Any	0.050 Ounce, 1.52 grams

MAX. RATING & CHARACTERISTICS

Parameter		SYMBOLS	VALUE			UNITS
			Min.	Typical	Max.	
Repetitive peak reverse voltage		V_{RRM}			600	Volts
RMS voltage		V_{RMS}			420	Volts
DC blocking voltage		V_{DC}			600	Volts
Average forward output rectified current at Tc= 50°C (see Note 3)		I_{AV}			3.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)		I_{FSM}		55		A
Instantaneous forward voltage at 3.0A		V_F			1.1	Volts
DC reverse current at rated DC blocking voltage	TA=25℃	I_R			5.0	μA
	TA=125℃				0.5	mA
I^2t Rating for fusing (3 ms≤t≤8.3ms)		I^2t		12.5		A^2S
Junction capacitance (Note 2)		C_J		40		pF
Thermal resistance (Note 3)		$R_{\theta JA}$		40		°C/W
Operating junction temperature range		T_J	-55		+150	
Storage temperature range		T_{STG}	-55		+150	°C

Note

1. Ratings at 25 C ambient temperature unless otherwise specified. Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
3. Thermal resistance junction to case, lead and ambient

RELIABILITY

Number	Experiment Items	Experiment Method And Conditions	Reference Documents
1	Solder Resistance Test	Test 260°C± 5°C for 10 ± 2 sec. Immerse body into solder 1/16" ± 1/32"	MIL-STD-750D METHOD-2031.2
2	Solderability Test	230°C ±5°C for 5 sec.	MIL-STD-750D METHOD-2026.1 0
3	Pull Test	1 kg in axial lead direction for 10 sec.	MIL-STD-750D METHOD-2036.4
4	Bend Test	0.5Kg Weight Applied To Each Lead, Bending Arcs 90 °C ± 5 °C For 3 Times	MIL-STD-750D METHOD-2036.4
5	High Temperature Reverse Bias Test	T_A=100°C for 1000 Hours at V_R=80% Rated V_R	MIL-STD-750D METHOD-1038.4
6	Forward Operation Life Test	TA=25°C Rated Average Rectified Current	MIL-STD-750D METHOD-1027.3
7	Intermittent Operation Life Test	On state: 5 min with rated IRMS Power Off state: 5 min with Cool Forced Air. On and off for 1000 cycles.	MIL-STD-750D METHOD-1036.3
8	Pressure Cooker Test	15 PSIG, T_A=121°C, 4 hours	MIL-S-19500 APPENOIXC
9	Temperature Cycling Test	-55°C~+125°C; 30 Minutes For Dwelled Time 5 minutes for transferred time. Total: 10 cycles.	MIL-STD-750D METHOD-1051.7
10	Thermal Shock Test	0°C for 5 minutes., 100°C for 5minutes, Total: 10 cycles	MIL-STD-750D METHOD-1056.7
11	Forward Surge Test	8.3ms Single Sale Sine-wave One Surge.	MIL-STD-750D METHOD-4066.4
12	Humidity Test	T_A=65°C, RH=98% for 1000 hours.	MIL-STD-750D METHOD-1021.3
13	High Temperature Storage life Test	150°C for 1000 Hours	MIL-STD-750D METHOD-1031.5

RATINGS AND CHARACTERISTIC CURVES (For Reference Only)

Fig.1 Forward Current Derating Curve

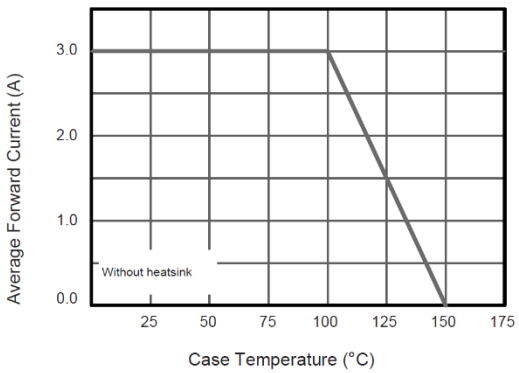


Fig.2 Typical Instaneous Reverse Characteristics

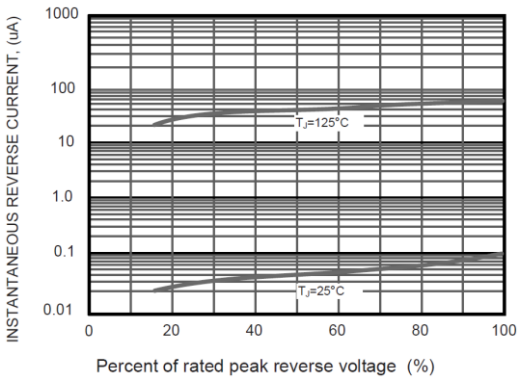


Fig.3 Typical Forward Characteristic

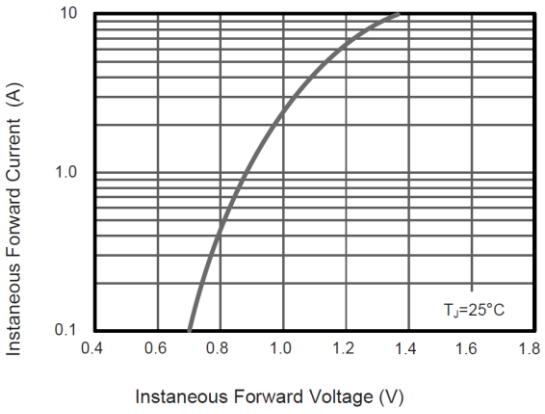


Fig.4 Typical Junction Capacitance

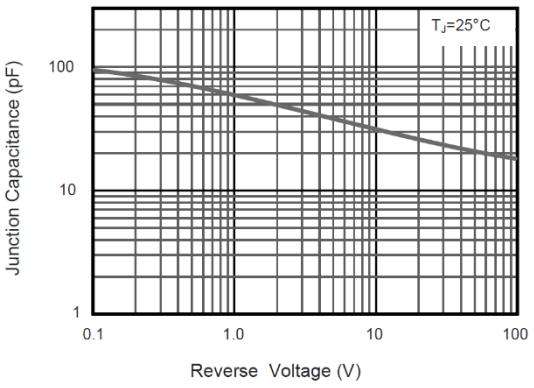


Fig.5 Maximum Non-Repetitive Peak Forward Surage Current

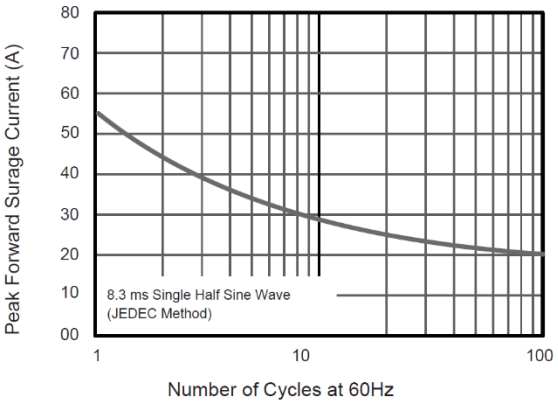
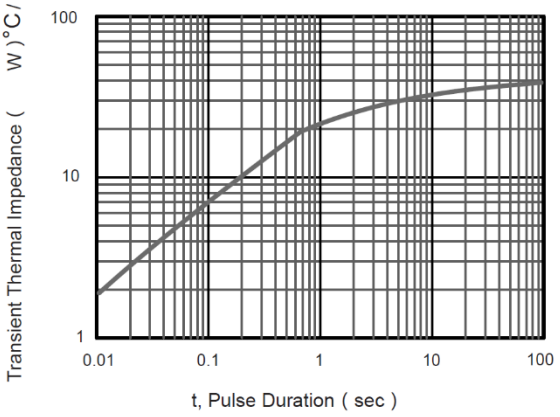


Fig.6- Typical Transient Thermal Impedance



PACKAGE

Part Type	Qty. Per Box (pcs)	G.W per box (kg)	Inner Box L*W*H (mm)	Carton size L*W*H (mm)	Qty. Per Carton (pcs)	G. W (kg)
KBP	500	0.80	300*110*30	315*245*190	5,000	8.25

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