KBU4005 THRU KBU410

List

Formosa MS

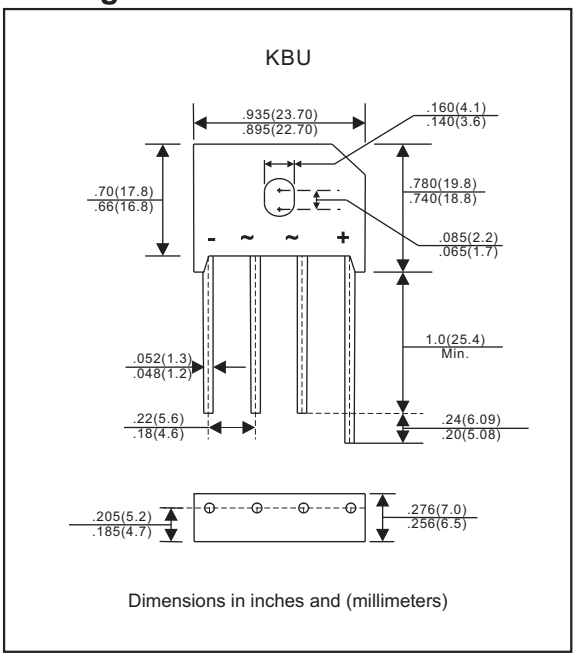
KBU4005 THRU KBU410

4.0A Plastic Passivated Single-Phase Bridge Rectifiers-50-1000V

Features

- Surge overload rating 150 amperes peak.
- Ideal for printed circuit board
- Reliable low cost construction utilizing molded plastic technique
- Plastic Passivated chip junctions.
- Lead-free parts meet RoHS requirments.
- UL recognized file # E321971
- Suffix "-H" indicates Halogen-free part, ex.KBU4005-H.

Package outline



Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, KBU
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : marked on body
- Mounting Position : Any
- Weight : Approximated 8.00 gram

Maximum ratings and Electrical Characteristics (AT T_A=25°C unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	I_O			4.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			150	A
Reverse current	V_R = V_{RRM} T_J = 25°C	I_R			10	uA
	V_R = V_{RRM} T_J = 100°C				1000	
I^2t Rating for fusing	t < 8.3 ms	I^2t			93	A^2s
Typical Junction capacitance per element	Measured at 1.0MHz and applied reverse voltage of 4.0 VDC	C_J		110		pF
Storage temperature		T_{STG}	-65		+175	°C

SYMBOLS	V_{RRM} *1 (V)	V_{RMS} *2 (V)	V_R *3 (V)	V_F *4 (V)	Operating temperature T_J, (°C)
KBU4005	50	35	50	1.0	-55 to +125
KBU401	100	70	100		
KBU402	200	140	200		
KBU404	400	280	400		
KBU406	600	420	600		
KBU408	800	560	800		
KBU410	1000	700	1000		

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage @ I_F=4.0A

Rating and characteristic curves (KBU4005 THRU KBU410)

FIG.1-DERATING CURVE FOR
OUTPUT RECTIFIED CURRENT

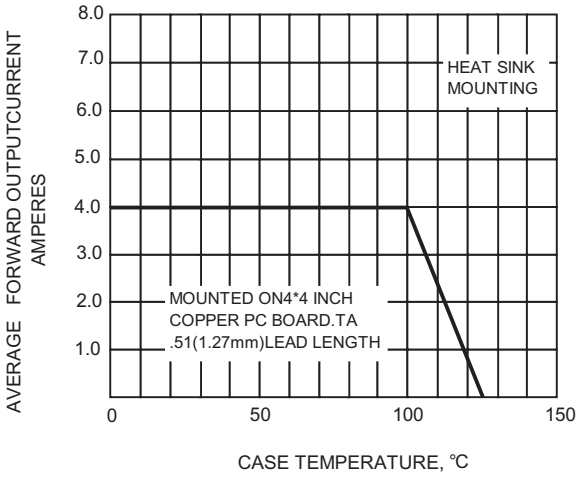


FIG.2 TYPICAL INSTANTANEOUS FORWARD
CHARACTERISTIC

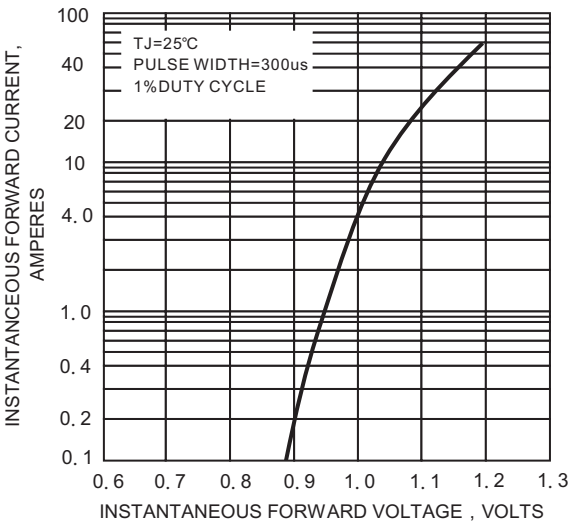


FIG.3-MAXIMUM NON-RETETITIVE PEAK
FORWARD SURGE CURRENT

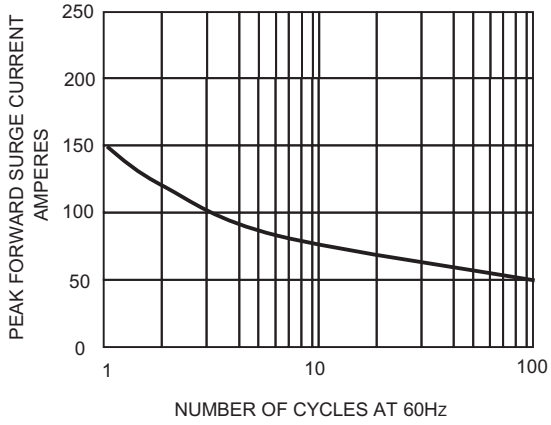


FIG.4-TYPICAL REVERSE
CHARACTERISTICS

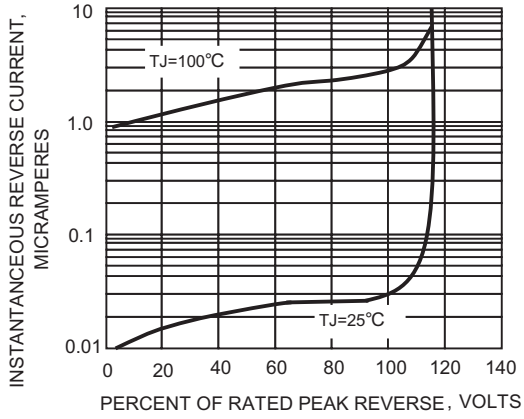
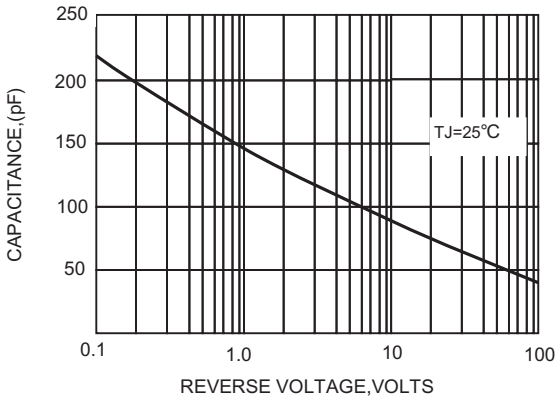


FIG.5-TYPICAL JUNCTION CAPACITANCE PER ELEMENT



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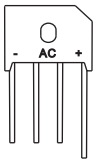
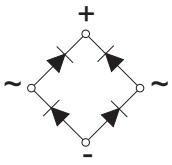
Pinning information

Simplified outline	Symbol
	

Marking

Type number	Marking code
KBU4005	KBU4005
KBU401	KBU401
KBU402	KBU402
KBU404	KBU404
KBU406	KBU406
KBU408	KBU408
KBU410	KBU410

Tube packing

PACKAGE	TUBE (pcs)	TUBE SIZE (m/m)	BOX (pcs)	INNER BOX (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
KBU	20	488*55.2*9.5	400	510*110*125	530*240*285	1,600	19.5

Bulk packing

PACKAGE	BOX (pcs)	INNER BOX (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
KBU	400	230*230*49	485*240*172	2,400	18.6

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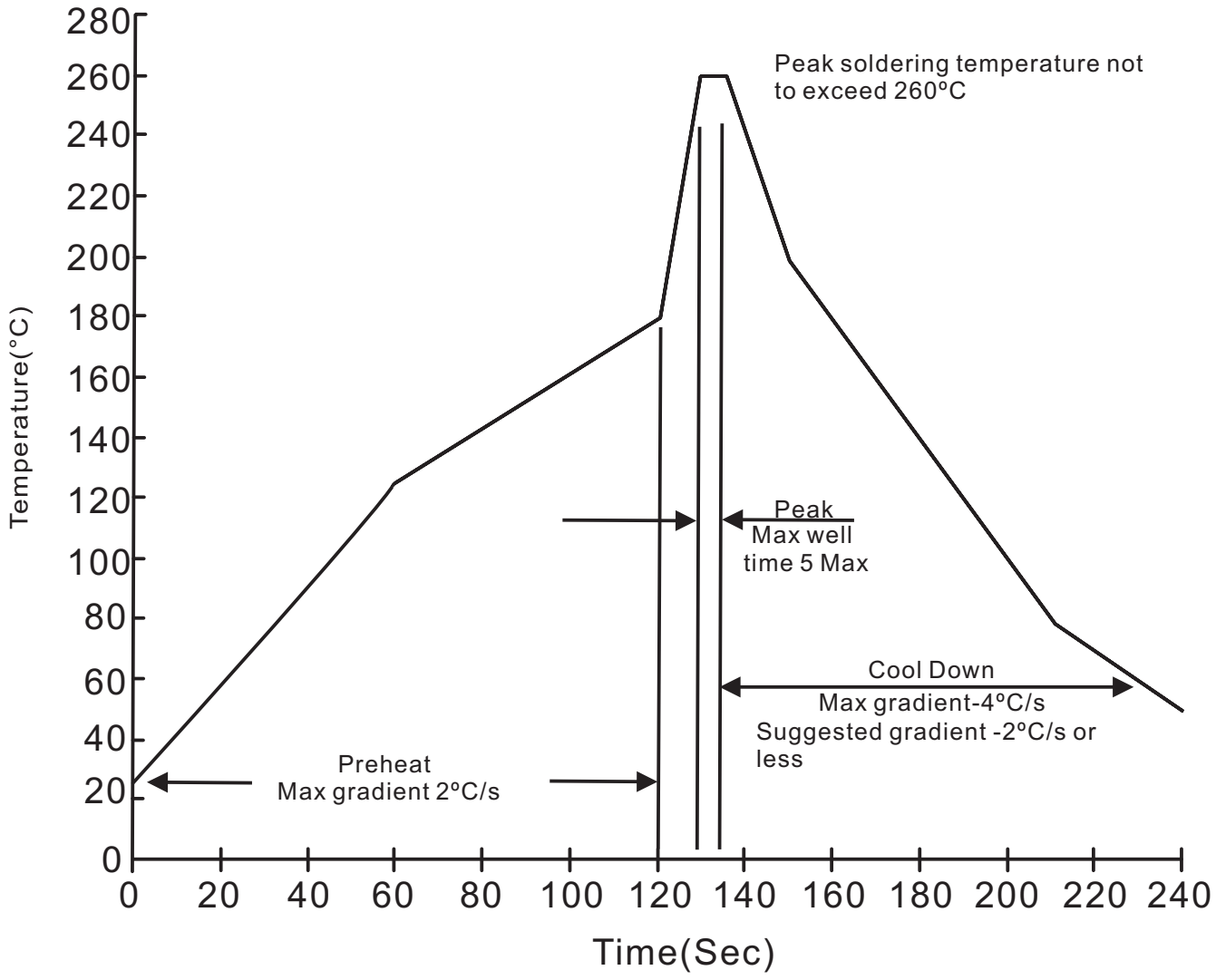
1.Lead free temperature profile wave-soldering



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High reliability test capabilities

Item Test	Conditions	Reference
1. Solder Resistance	at 260±5°C for 10±2sec. immerse body into solder 1/16"±1/32"	MIL-STD-750D METHOD-2031
2. Solderability	at 245±5°C for 5 sec.	MIL-STD-202F METHOD-208
3. High Temperature Reverse Bias	V_R=80% rate at T_J=125°C for 168 hrs.	MIL-STD-750D METHOD-1038
4. Forward Operation Life	Rated average rectifier current at T_A=25°C for 500hrs.	MIL-STD-750D METHOD-1027
5. Intermittent Operation Life	T_A = 25°C, I_F = I_O On state: power on for 5 min. off state: power off for 5 min. on and off for 500 cycles.	MIL-STD-750D METHOD-1036
6. Pressure Cooker	15P_{SIG} at T_A=121°C for 4 hrs.	JESD22-A102
7. Temperature Cycling	-55°C to +125°C dwelled for 30 min. and transferred for 5min. total 10 cycles.	MIL-STD-750D METHOD-1051
8. Forward Surge	8.3ms single half sine-wave , one surge.	MIL-STD-750D METHOD-4066-2
9. Humidity	at T_A=85°C, RH=85% for 1000hrs.	MIL-STD-750D METHOD-1021
10. High Temperature Storage Life	at 175°C for 1000 hrs.	MIL-STD-750D METHOD-1031