Single Phase Silicon Bridge Rectifier

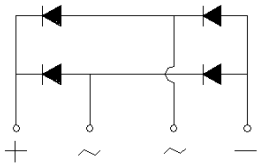
V_{RRM} = 600 V - 1000 V

I_O = 10 A

Features

- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0
- Ideal for printed circuit boards
- High forward surge current capability
- High temperature soldering guaranteed: 250ºC/ 10 seconds, 0.375 (9.5mm) lead length, 5 lbs. (2.3 kg) tension
- Types from 600 V up to1000 V V_{RRM}
- Not ESD Sensitive

KBU Package



Mechanical Data

Case: Molded plastic body

Terminals: Plated leads, solderable per MIL-STD-750, Method 2026

Mounting position: Any

Mounting torque: 5 inch-lbs max

Weight: 0.268 ounces, 7.6 grams

Maximum ratings at Tc = 25 °C, unless otherwise specified

Parameter	Symbol	Conditions	KBU1006	KBU1008	KBU1010	Unit
Repetitive peak reverse voltage	V_{RRM}		600	800	1000	V
RMS reverse voltage	V_{RMS}		420	560	700	V
DC blocking voltage	V_{DC}		600	800	1000	V
Operating temperature	T_j		-55 to 150	-55 to 150	-55 to 150	°C
Storage temperature	T_{stg}		-55 to 150	-55 to 150	-55 to 150	°C

Electrical characteristics at Tc = 25 °C, unless otherwise specified

Single phase, half sine wave, 60 Hz, resistive or inductive load

For capacitive load derate current by 20%

Parameter	Symbol	Conditions	KBU1006	KBU1008	KBU1010	Unit
Maximum average forward rectified current	I_O	T_c = 100 °C	10	10	10	A
Peak forward surge current	I_{FSM}	t_p = 8.3 ms, half sine	300	300	300	A
Maximum instantaneous forward voltage drop per leg	V_F	I_F = 10 A	1.05	1.05	1.05	V
Maximum DC reverse current at rated DC blocking voltage	I_R	T_a = 25 °C T_a = 100 °C	10 500	10 500	10 500	µA

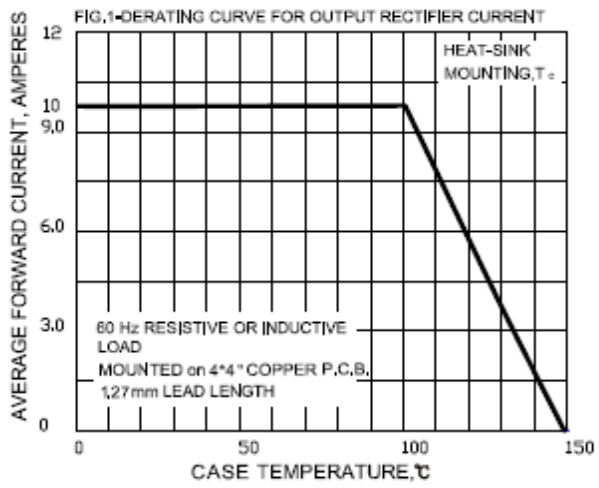


FIG.1-DERATING CURVE FOR OUTPUT RECTIFIER CURRENT
AVERAGE FORWARD CURRENT, AMPERES
12
10
9.0
6.0
3.0
0
HEAT-SINK
MOUNTING,Tc
60 Hz RESISTIVE OR INDUCTIVE
LOAD
MOUNTED on 4*4" COPPER P.C.B.
1.27mm LEAD LENGTH
0
50
100
150
CASE TEMPERATURE,℃

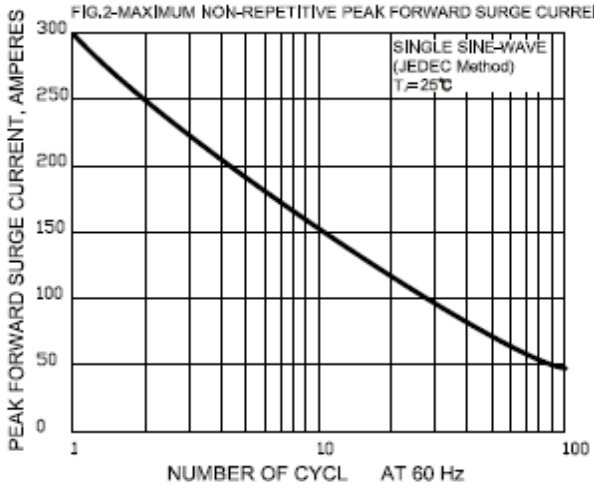


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT
PEAK FORWARD SURGE CURRENT, AMPERES
300
250
200
150
100
50
0
SINGLE SINE-WAVE
(JEDEC Method)
TJ=25℃
1
10
100
NUMBER OF CYCL AT 60 Hz

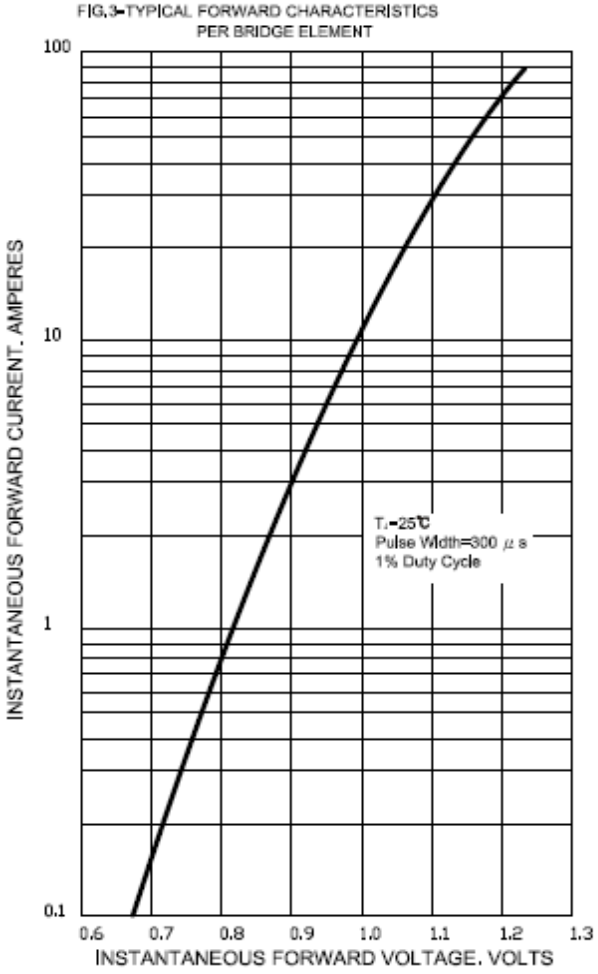


FIG.3-TYPICAL FORWARD CHARACTERISTICS
PER BRIDGE ELEMENT
INSTANTANEOUS FORWARD CURRENT, AMPERES
100
10
1
0.1
TJ=25℃
Pulse Width=300 μs
1% Duty Cycle
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
INSTANTANEOUS FORWARD VOLTAGE, VOLTS

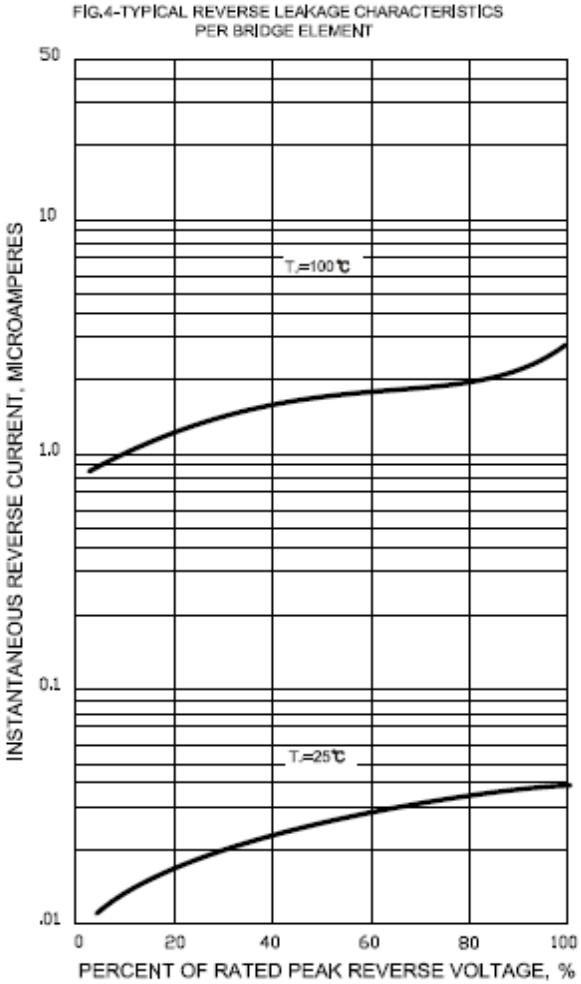
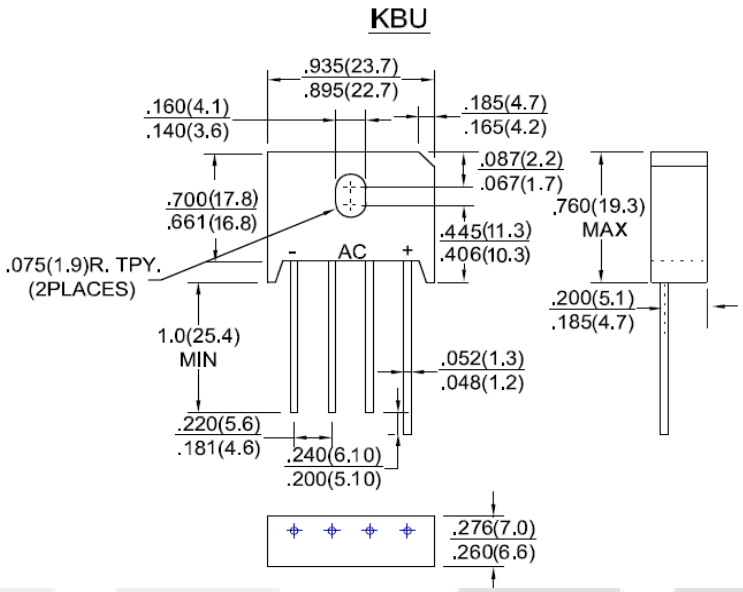


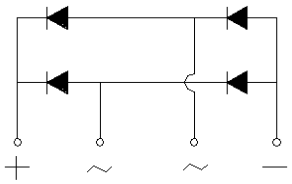
FIG.4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS
PER BRIDGE ELEMENT
INSTANTANEOUS REVERSE CURRENT, MICROAMPERES
50
10
1.0
0.1
.01
TJ=100℃
TJ=25℃
0
20
40
60
80
100
PERCENT OF RATED PEAK REVERSE VOLTAGE, %

Package dimensions and terminal configuration

Product is marked with part number and terminal configuration.



Dimensions in inches and (millimeters)



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KBU1006