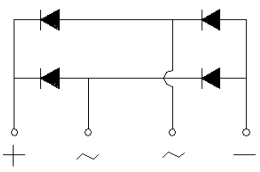
Single Phase Glass Passivated Silicon Bridge Rectifier

V_{RRM} = 600 V -1000 V
I_O = 4 A

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- This series is UL listed under the Recognized
- Glass passivated chip junction
- High case dielectric strength
- Typical I_R less than 0,1 A
- High surge current capability
- Ideal for printed circuit boards
- Not ESD Sensitive

GBL Package



Mechanical Data

Case: Molded plastic body over passivated junctions
Terminals: Plated leads, solderable per MIL-STD-750 Method 2026.
Weight: 0.071 oz, 2.0 g

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

Parameter	Symbol	Conditions	GBL06	GBL08	GBL10	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	GBL06	GBL08	GBL10	Unit
Maximum average forward rectified current	I_O	T_c = 50 °C (Note 1) T_c = 40 °C (Note 2)	4.0 3.0	4.0 3.0	4.0 3.0	A
Peak forward surge current	I_{FSM}	t_p = 8.3 ms, half sine	135	135	135	A
Maximum instantaneous forward voltage drop per leg	V_F	I_F = 4 A	1.1	1.1	1.1	V
Maximum DC reverse current at rated DC blocking voltage per leg	I_R	T_a = 25 °C T_a = 125 °C	5 500	5 500	5 500	µA
Rating for fusing	I^2t	t < 8.3 ms	75	75	75	A^2sec
Typical junction capacitance per leg (Note 3)	C_j		40	40	40	pF
Typical thermal resistance per leg	$R_{\Theta JA}$ $R_{\Theta JL}$	(Note 1) (Note 2)	22 3.5	22 3.5	22 3.5	°C/W

[1] - Unit mounted on 3.0" x 3.0" x 0.11" (75 mm x 75 mm x 3 mm) Al plate

[2] - Unit mounted on P.C.B. At 0.375" (9.5 mm) lead length and 0.5" x 0.5" (12 mm x 12 mm)

[3] - Measured at 1.0 MHz and applied reverse bias of 4.0 V

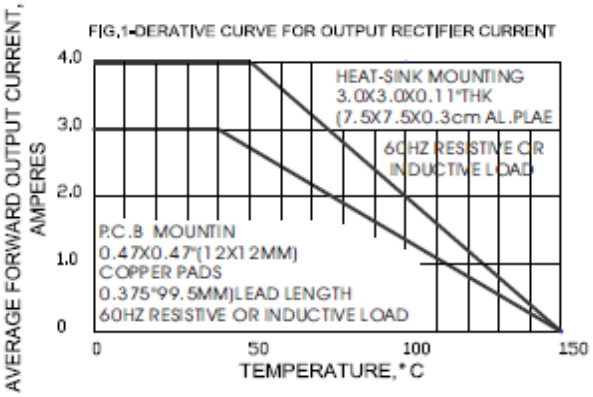


FIG.1-DERATIVE CURVE FOR OUTPUT RECTIFIER CURRENT
AVERAGE FORWARD OUTPUT CURRENT, AMPERES
4.0
3.0
2.0
1.0
0
HEAT-SINK MOUNTING
3.0X3.0X0.11"THK
(7.5X7.5X0.3cm AL.PLAE
60HZ RESISTIVE OR
INDUCTIVE LOAD
P.C.B MOUNTIN
0.47X0.47"(12X12MM)
COPPER PADS
0.375"99.5MM)LEAD LENGTH
60HZ RESISTIVE OR INDUCTIVE LOAD
0
50
100
150
TEMPERATURE,°C

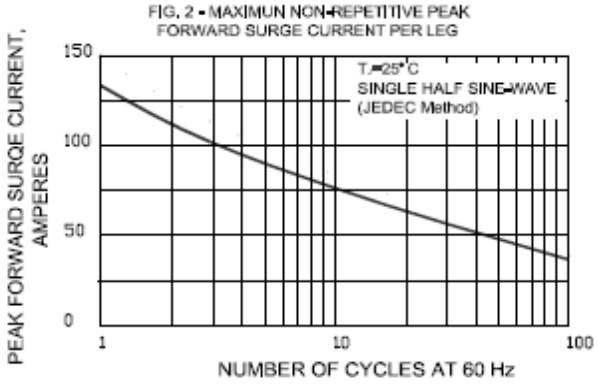


FIG. 2 - MAXIMUN NON-REPETITIVE PEAK
FORWARD SURGE CURRENT PER LEG
PEAK FORWARD SURGE CURRENT, AMPERES
150
100
50
0
T.=25°C
SINGLE HALF SINE-WAVE
(JEDEC Method)
1
10
100
NUMBER OF CYCLES AT 60 Hz

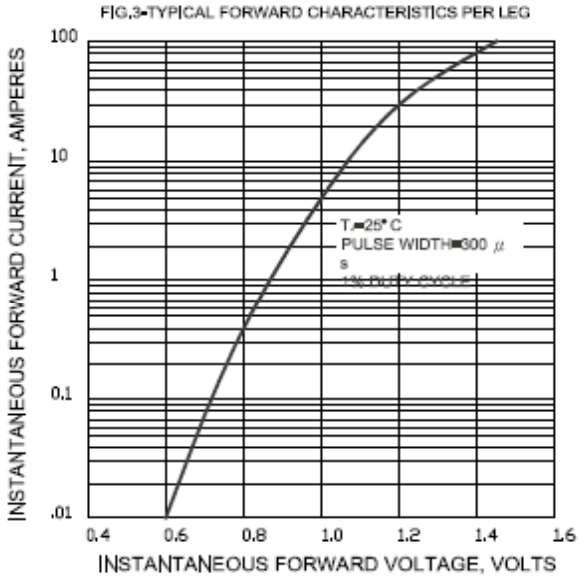


FIG.3-TYPICAL FORWARD CHARACTERISTICS PER LEG
INSTANTANEOUS FORWARD CURRENT, AMPERES
100
10
1
0.1
.01
T.=25°C
PULSE WIDTH=300 μs
1% DUTY CYCLE
0.4
0.6
0.8
1.0
1.2
1.4
1.6
INSTANTANEOUS FORWARD VOLTAGE, VOLTS

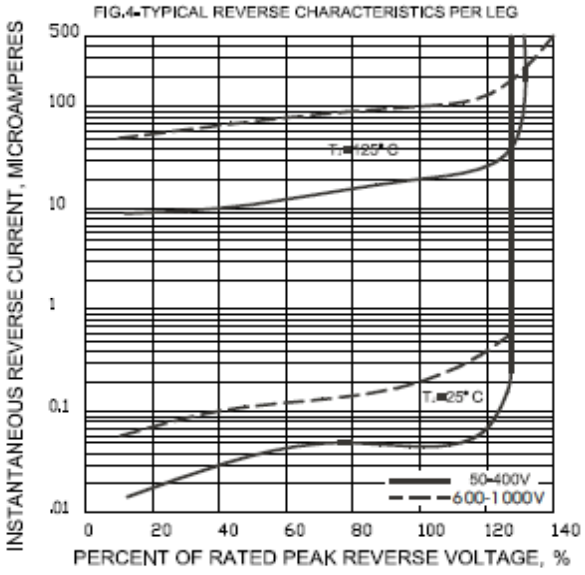


FIG.4-TYPICAL REVERSE CHARACTERISTICS PER LEG
INSTANTANEOUS REVERSE CURRENT, MICROAMPERES
500
100
10
1
0.1
.01
T.=125°C
T.=25°C
50-400V
600-1000V
0
20
40
60
80
100
120
140
PERCENT OF RATED PEAK REVERSE VOLTAGE, %

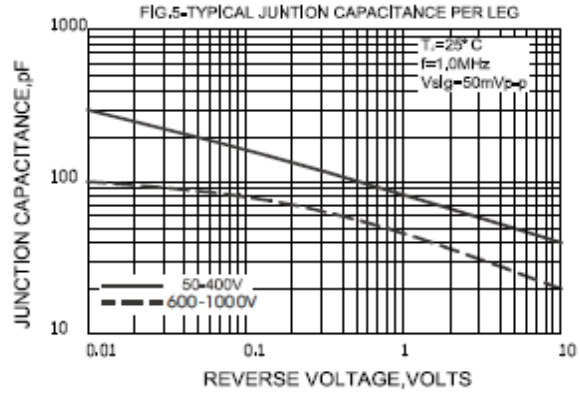


FIG.5-TYPICAL JUNTION CAPACITANCE PER LEG
JUNCTION CAPACITANCE,pF
1000
100
10
T.=25°C
f=1.0MHz
Vsig=50mVp-p
50-400V
600-1000V
0.01
0.1
1
10
REVERSE VOLTAGE,VOLTS

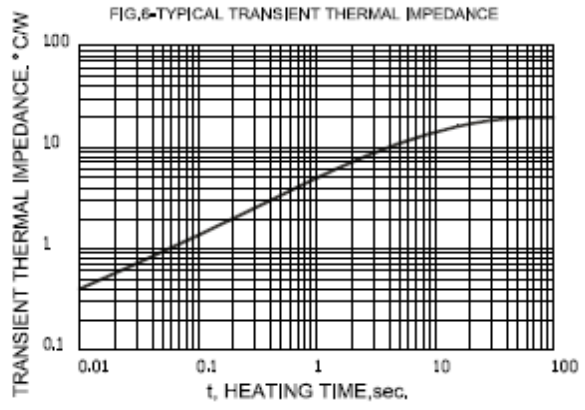
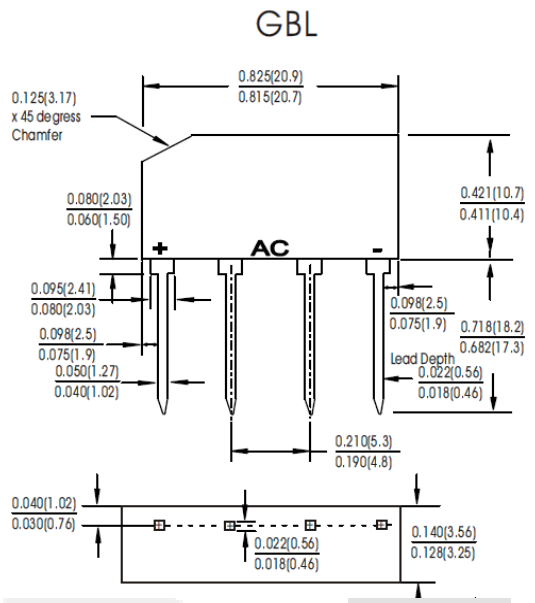


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE
TRANSIENT THERMAL IMPEDANCE, °C/W
100
10
1
0.1
0.01
0.1
1
10
100
t, HEATING TIME,sec.

Package dimensions and terminal configuration

Product is marked with part number and terminal configuration.



Dimensions in inches and (millimeters)