

GBJ2506L

BRIDGE RECTIFIERS



VOLTAGE: 600 Volts

CURRENT: 25 Amperes

Package: GBJ

Marking and Polarity

FEATURES

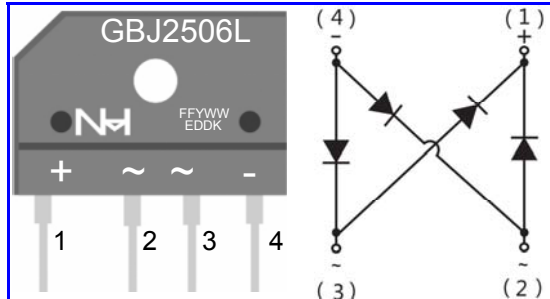
- Glass Passivated Chip Junction
- Low Forward Voltage Drop For High Efficiency
- Low Leakage Current For High Reliability
- High Forward Surge Capability For High Reliability

MECHANICAL DATA

- **Package:** Molding Compound Meets UL 94 V-0 Flammability Rating, RoHS-Compliant
- **Polarity:** As Marked On Case
- **Mounting Position:** Any
- **Weight:** App. 6.873 Grams (0.24243 Ounce)

TYPICAL APPLICATIONS

- General Purpose Use In AC/DC Bridge Full Waverectification For PD, Adapter, Power Supply, Monitor, LED Driver, Printer, Audio Equipment, TV And Home appliances Etc. Applications.



Remark:

- ①. NH=Niuhan Trademark
- ②. FF=Product Line Code, According To Actual Changes
YWW=Date Code, According To Actual Changes
EDDK=Internal Code, According To Actual Changes
- ③. GBJ2506L=Model
- ④. + ~ ~ -=Polarity Mark

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%

Maximum Ratings (Ta=25°C Unless Otherwise Specified)

Parameter	Test Conditions	Symbol	GBJ2506L	Unit
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	600	V
Maximum RMS Voltage		V_{RMS}	420	V
Maximum DC Blocking Voltage		V_{DC}	600	V
Maximum Average Forward Rectified Current (see fig.1)	With Heatsink @TC= 100 °C Without Heatsink @TC= 100 °C	$I_{F(AV)}$	25 4.2	A
Peak Forward Surge Current	8.3ms Single Half Sine-wave Superimposed On Rate Load	I_{FSM}	350	A
Current Squared Time Per Diode	t<8.3ms	I^2t	508.4	A ² sec
Maximum Mounting Torque	M3 screw	T_{MM}	1.1	N.m

Electrical Characteristics (Ta=25°C Unless Otherwise Specified)

Parameter	Test Conditions		Symbol	GBJ2506L			Unit
				Min.	Typ.	Max.	
Instantaneous Forward Voltage Per Diode (note1)	Ta=25°C Ta=125°C	$I_F = 12.5 A$	V_F	--	0.90 0.80	1.10 1.03	V
Maximum DC Reverse Current At Rated DC Blocking Voltage (Note 1)	Ta=25°C Ta=125°C	$V_R = V_{RRM}$ $V_R = 80\% \cdot V_{RRM}$	I_{RRM}	--	1 50	5 500	uA
Typical Junction Capacitance Per Diode	4.0V, 1MHz		C_J	--	85	--	pF

Thermal Characteristics (Ta=25°C Unless Otherwise Specified)

Parameter	Symbol	GBJ2506L	Unit
Operating Junction Temperature Range	T_J	-55 to 150	°C
Storage Temperature Range	T_{STD}	-55 to 150	
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	4.5	°C/W
	$R_{\theta JC}$	0.6	

Notes: 1. Pulse Test: 300 Us Pulse Width, 1% Duty Cycle

2. Device Mounted On Device Mounted On 75mm x 45mm x 5.5mm Aluminum Plate Heatsink.

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Typical Characteristics Curves

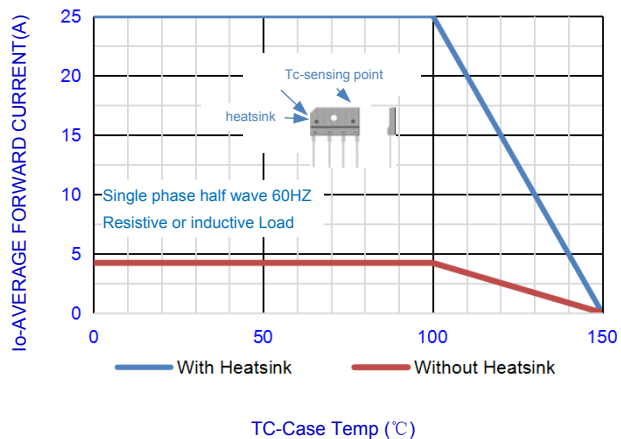


Fig.1-FORWARD CURRENT DERATING CURVE

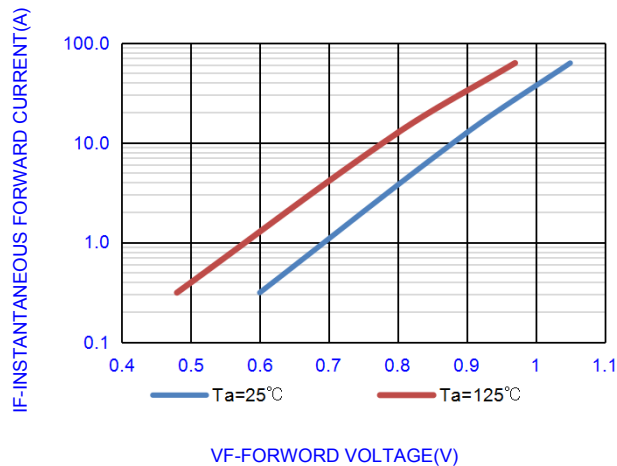


Fig.2- TYPICAL INSTANTANEOUS FORWARD

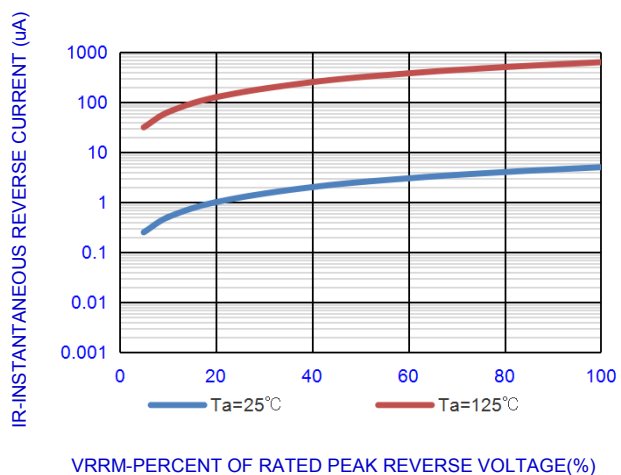


Fig.3- TYPICAL REVERSE CHARACTERISTICS

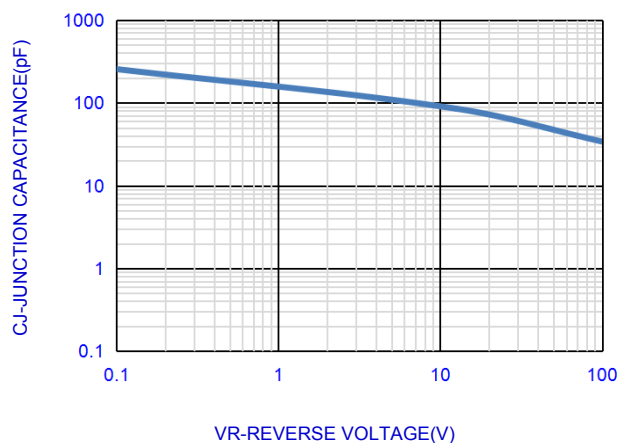


Fig.4- TYPICAL JUNCTION CAPACITANCE

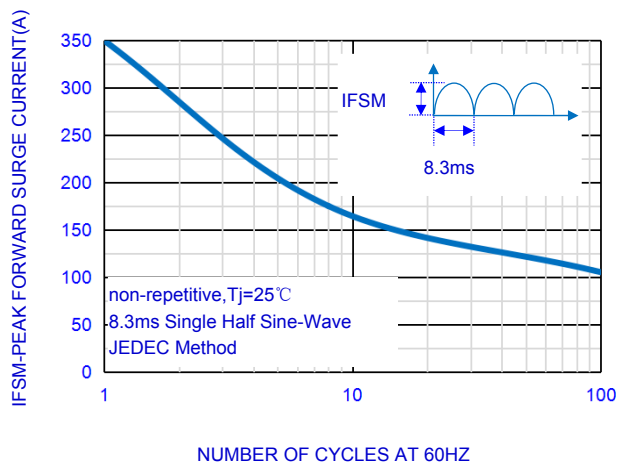
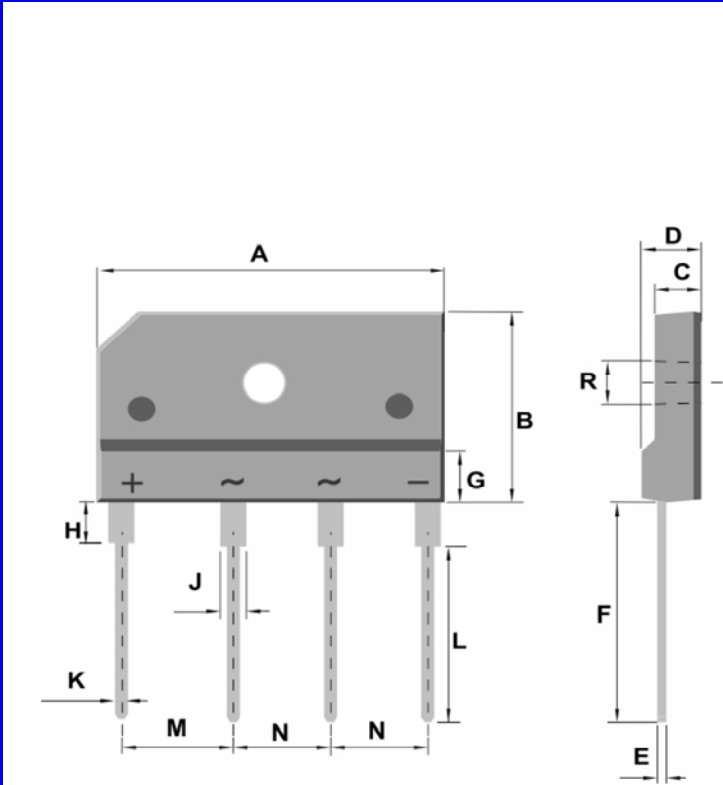


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

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OUTLINE DRAWINGS



GBJ

OUTLINE DIMENSIONS						
Dim.	Milimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	29.00		31.00	1.14	-	1.22
B	19.25		20.75	0.76	-	0.82
C	3.30		3.90	0.13	-	0.15
D	4.30		4.90	0.17	-	0.19
E	0.45		0.85	0.02	-	0.03
F	16.15		18.15	0.64	-	0.71
G	5.15		5.75	0.20	-	0.23
H	3.40		4.00	0.13	-	0.16
J	1.90		2.40	0.07	-	0.09
K	0.80		1.20	0.03	-	0.05
L	12.45		14.45	0.49	-	0.57
M	9.60		10.40	0.38	-	0.41
N	7.10		7.90	0.28	-	0.31
R	3.15		3.55	0.12	-	0.14

PACKING INFORMATION

Package	Pack	Inner Box Size L×W×H(mm)	Quantity (pcs/Inner Box)	Outer Carton Size L×W×H(mm)	Quantity (pcs/carton)
GBJ	盒	310x137x45	250	320x290x265	25000

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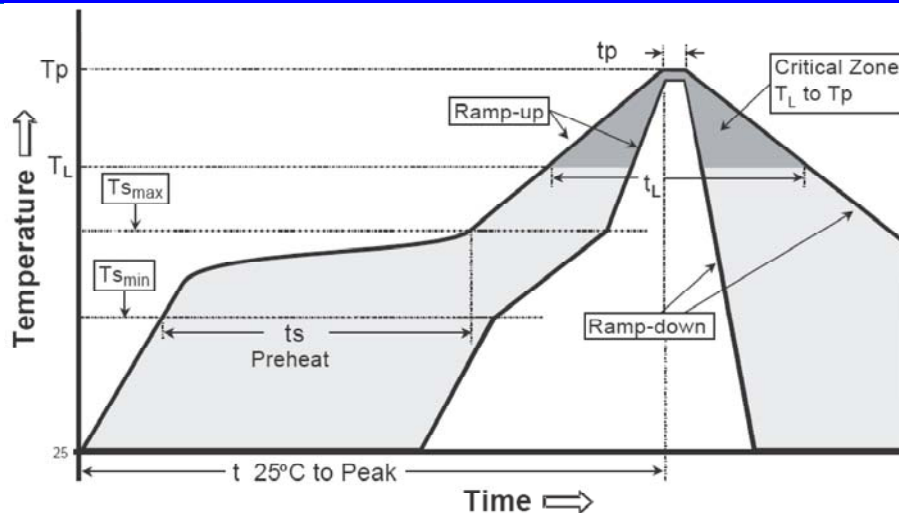
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Recommended wave soldering condition

Product	Peak Temperature	Soldering Time
Pb-free devices	260 +0/-5 °C	5 +1/-1 seconds

Recommended temperature profile for IR reflow



Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (T_{smax} to T_p)	3°C/second max.	3°C/second max.
Preheat -Temperature Min(T_{smin}) -Temperature Max(T_{smax}) -Time(t_{smin} to t_{smax})	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
Time maintained above: -Temperature (T_L) - Time (t_L)	183°C 60-150 seconds	217°C 60-150 seconds
Peak Temperature(T_p)	240 +0/-5 °C	260 +0/-5 °C
Time within 5°C of actual peak temperature(t_p)	10-30 seconds	20-40 seconds
Ramp down rate	6°C/second max.	6°C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

Note : All temperatures refer to topside of the package, measured on the package body surface.

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