

Vishay General Semiconductor

Single-Phase Single In-Line Bridge Rectifiers



PRIMARY CHARACTERISTICS					
I _{F(AV)}	6.0 A				
V _{RRM}	200 V to 800 V				
I _{FSM}	180 A				
I _R	10 μΑ				
V _F	0.95 V				
T _J max.	150 °C				

FEATURES





· Glass passivated chip junction

High surge current capability

High case dielectric strength of 1500 V_{RMS}

Solder dip 260 °C, 40 s

 Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

TYPICAL APPLICATIONS

General purpose use in ac-to-dc bridge full wave rectification for switching power supply, home appliances, office equipment, industrial automation applications.

MECHANICAL DATA

Case: GSIB-5S

Epoxy meets UL 94 V-0 flammability rating

Terminals: Matte tin plated leads, solderable per

J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class

1A whisker test

Polarity: As marked on body

Mounting Torque: 10 cm-kg (8.8 inches-lbs) max. **Recommended Torque:** 5.7 cm-kg (5 inches-lbs)

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	GSIB620	GSIB640	GSIB660	GSIB680	UNIT	
Maximum repetitive peak reverse voltage	V_{RRM}	200	400	600	800	V	
Maximum RMS voltage	V _{RMS}	140	280	420	560	V	
Maximum DC blocking voltage	V_{DC}	200	400	600	800	V	
$ \begin{array}{ll} \mbox{Maximum average forward rectified} & T_{\mbox{C}} = 100 \ ^{\circ}\mbox{C} \\ \mbox{output current at} & T_{\mbox{A}} = 25 \ ^{\circ}\mbox{C} \\ \end{array} $	I _{F(AV)}	6.0 ⁽¹⁾ 2.8 ⁽²⁾		А			
Peak forward surge current single sine-wave superimposed on rated load (JEDEC method)	I _{FSM}	180				А	
Rating for fusing (t < 8.3 ms)	l ² t	120			A ² s		
Operating junction and storage temperature range	T _J , T _{STG}	- 55 to + 150				°C	

Notes:

- (1) Unit case mounted on aluminum plate heatsink
- (2) Units mounted on P.C.B. with 0.5 x 0.5" (12 x 12 mm) copper pads and 0.375" (9.5 mm) lead length

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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)							
PARAMETER	TEST CONDITIONS	SYMBOL	DL GSIB620 GSIB640 GSIB660 GSIB680		GSIB680	UNIT	
Maximum instantaneous forward voltage drop per diode	3.0 A	V _F	0.95		٧		
Maximum DC reverse current at rated DC blocking voltage per diode	T _A = 25 °C T _A = 125 °C	I _R	10 250		μΑ		

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	GSIB620	GSIB640	GSIB660	GSIB680	UNIT
Typical thermal resistance	$R_{ heta JA} \ R_{ heta JC}$	22 ⁽²⁾ 3.4 ⁽¹⁾		°C/W		

Notes:

- (1) Unit case mounted on aluminum plate heatsink
- (2) Units mounted on P.C.B. with 0.5 x 0.5" (12 x 12 mm) copper pads and 0.375" (9.5 mm) lead length
- (3) Recommended mounting position is to bolt down on heatsink with silicone thermal compound for maximum heat transfer with #6 screw

ORDERING INFORMATION (Example)							
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE			
GSIB660-E3/45	7.0	45	20	Tube			

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

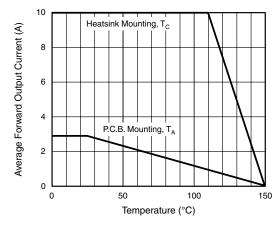


Figure 1. Derating Curve Output Rectified Current

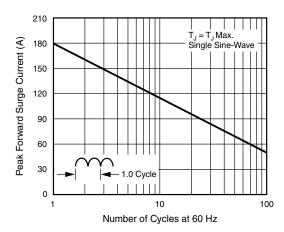


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode



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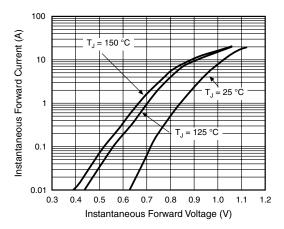


Figure 3. Typical Forward Characteristics Per Diode

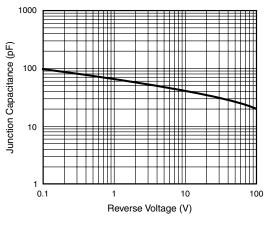


Figure 5. Typical Junction Capacitance Per Diode

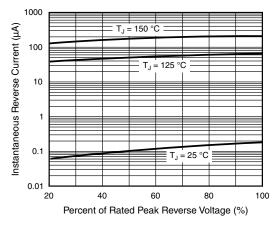


Figure 4. Typical Reverse Characteristics Per Diode

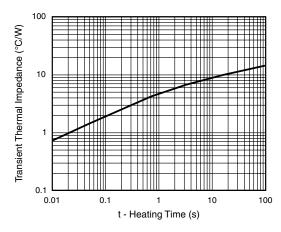
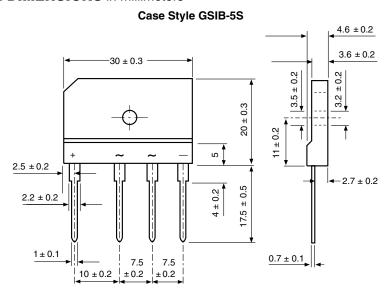


Figure 6. Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in millimeters





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Офис по работе с юридическими лицами:

105318, г. Москва, ул. Щербаковская д. 3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru moschip.ru_6 moschip.ru 4 moschip.ru 9