

Glass-Passivated Bridge Rectifiers

**DFB2505, DFB2510,
 DFB2520, DFB2540,
 DFB2560, DFB2580,
 DFB25100**

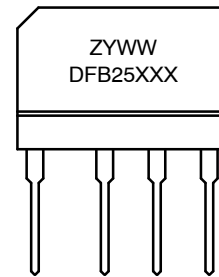


TS-6P
 CASE 127EP

Features

- UL Certificate # E258596
- Glass-Passivated Junction
- Ideal for Printed Circuit Board
- Reliable Low-Cost Construction
- Plastic Material has Underwriters Laboratory Flammability Classification 94V-0
- Surge Overload Rating: 350 A Peak
- High Case Dielectric Strength: 2500 V_{RMS}
- Isolated Voltage from Case to Lead: > 2500 V
- Screw Torque Specification: 8.17 in-lbs Maximum
- These Devices are Pb-Free and are RoHS Compliant

MARKING DIAGRAM



Z = Assembly Plant Code
 YWW = Date Code (Year & Week)
 DFB25XXX = Specific Device Code

ORDERING AND MARKING INFORMATION

Part Number	Marking	Package	Packing Method
DFB2505	DFB2505	TS-6P 4L (Pb-Free)	Rail
DFB2510	DFB2510		
DFB2520	DFB2520		
DFB2560	DFB2560		
DFB2580	DFB2580		
DFB25100	DFB25100		

DISCONTINUED (Note 1)

DFB2540	DFB2540	TS-6P 4L (Pb-Free)	Rail
---------	---------	-----------------------	------

1. **DISCONTINUED:** These devices are not recommended for new design. Please contact your **onsemi** representative for information. The most current information on these devices may be available on www.onsemi.com.

DFB2505, DFB2510, DFB2520, DFB2540, DFB2560, DFB2580, DFB25100

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$, Unless otherwise specified) (Note 2)

Symbol	Parameter	Value							Unit
		DFB2505	DFB2510	DFB2520	DFB2540	DFB2560	DFB2580	DFB25100	
V_{RRM}	Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
V_{RMS}	Maximum RMS Voltage	35	70	140	280	420	560	700	V
V_{DC}	Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
$I_{(AV)}$	Maximum Average Forward Rectified Current	25							A
I_{FSM}	Peak Forward Surge Current (8.3 ms Single Half-wave)	350							A
$R_{\theta JC}$	Typical Thermal Resistance (Note 3)	4.75							$^\circ\text{C}/\text{W}$
T_J	Operating Temperature Range	-55 to +150							$^\circ\text{C}$
T_{STG}	Storage Temperature Range	-55 to +150							$^\circ\text{C}$

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

- Single-phase, half-wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.
- Device mounted on 4 inch x 6 inch x 0.25 inch Al-plate heat sink.

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Test Conditions	Value	Unit
V_F	Maximum Forward Voltage	12.5 A	1.0	V
	Instantaneous Forward Voltage	25 A	1.1	
I_R	Maximum DC Reverse Current at Rated DC Blocking Voltage	$T_A = 25^\circ\text{C}$	10	μA
		$T_A = 125^\circ\text{C}$	500	
I^2t	Rating for Fusing ($t < 8.3$ ms)		508	A^2s
C_J	Typical Junction Capacitance per Leg (Note 4)		110	pF

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

- Measured at 1 MHz and applied reverse bias of 4.0 V DC.

TYPICAL PERFORMANCE CHARACTERISTICS

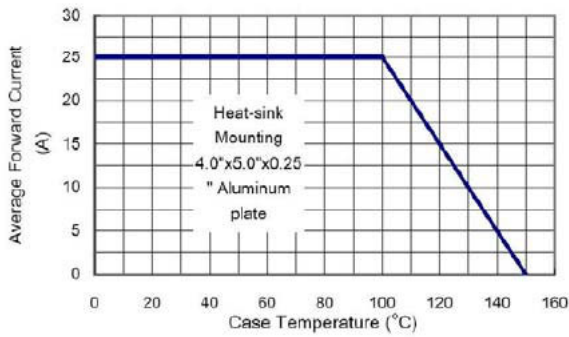


Figure 1. Maximum Derating Curve for Output Current

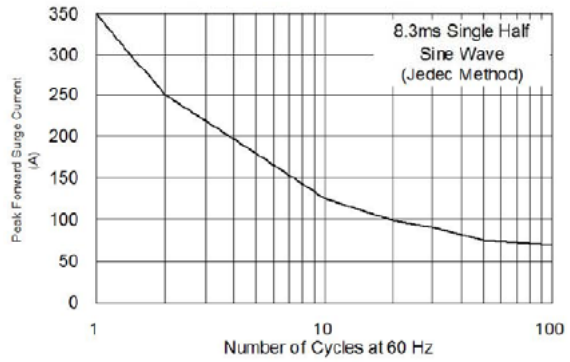


Figure 2. Maximum Forward Surge Current per Leg

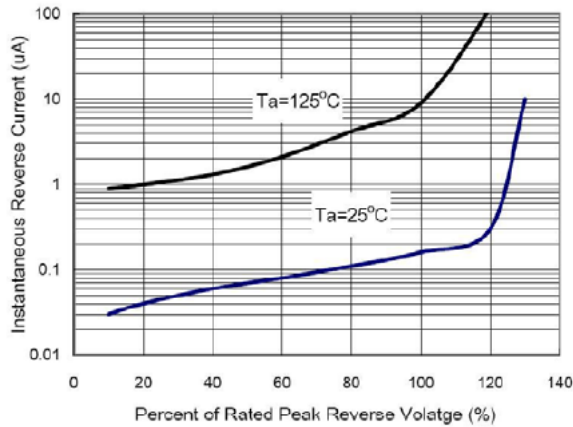


Figure 3. Typical Reverse Characteristics per Leg

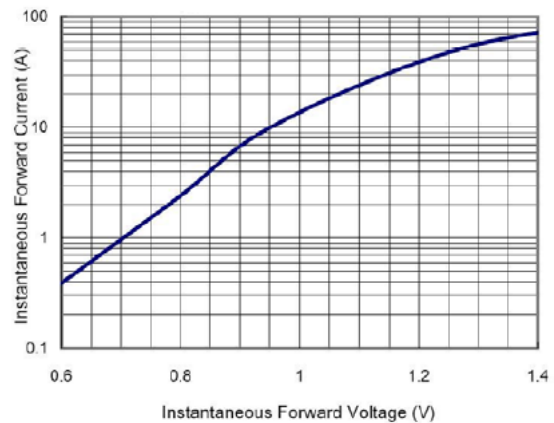


Figure 4. Typical Forward Characteristics per Leg

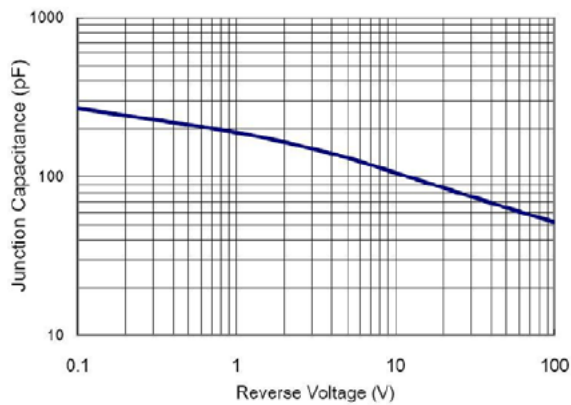


Figure 5. Typical Junction Capacitance

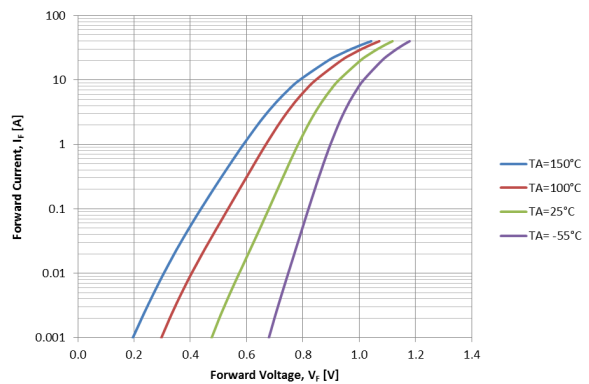
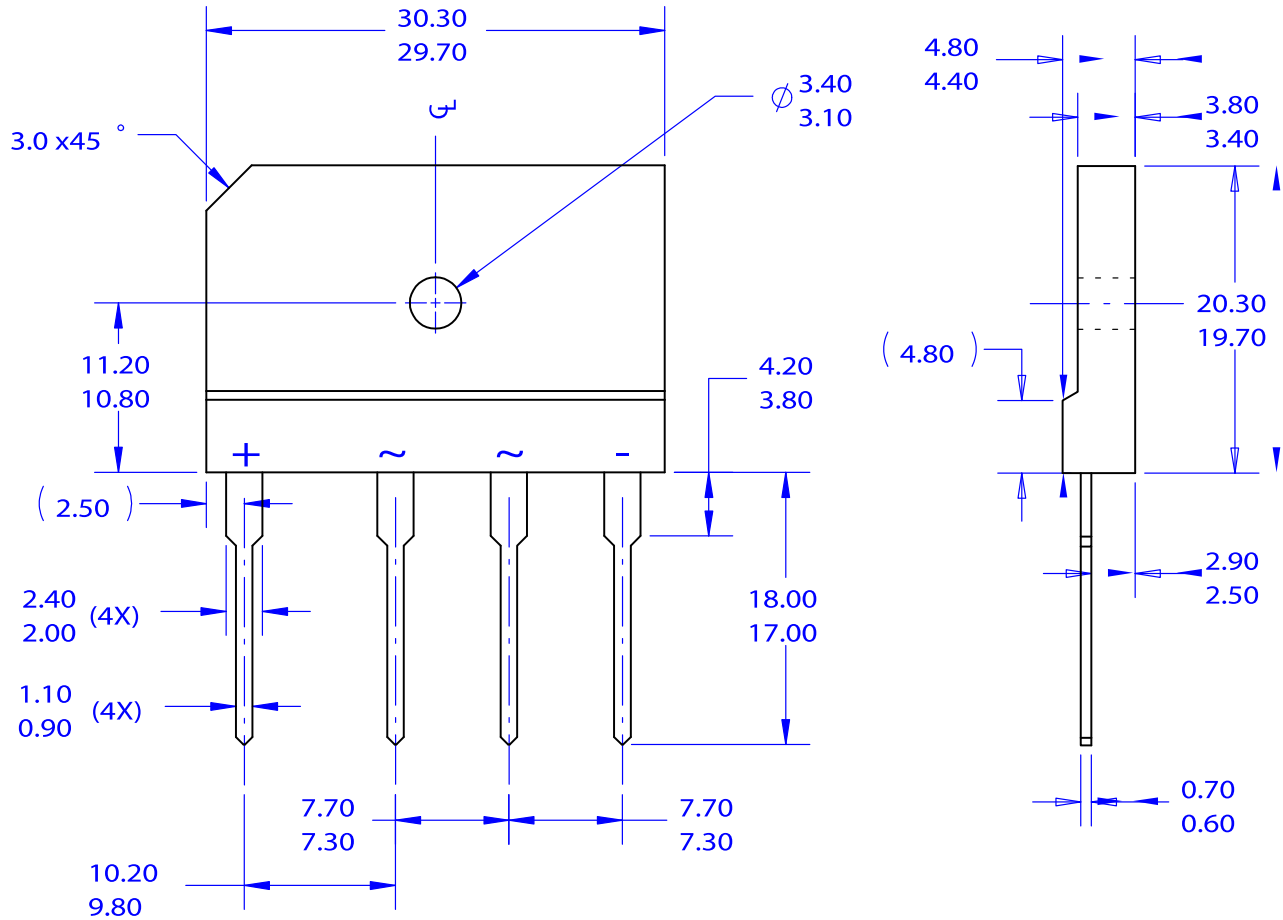


Figure 6. Forward Voltage Characteristics

SIP4 30x20
CASE 127EP
ISSUE 0

DATE 31 DEC 2016



NOTES:

- A. THIS PACKAGE DOES NOT CONFORM TO ANY STANDARDS.
- B. ALL DIMENSIONS ARE IN MILLIMETERS.
- C. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR PROTRUSIONS.

DOCUMENT NUMBER:	98AON13720G	Electronic versions are uncontrolled except when accessed directly from the Document Repository. Printed versions are uncontrolled except when stamped "CONTROLLED COPY" in red.
DESCRIPTION:	SIP4 30x20	PAGE 1 OF 1

onsemi and ONSEMI are trademarks of Semiconductor Components Industries, LLC dba onsemi or its subsidiaries in the United States and/or other countries. onsemi reserves the right to make changes without further notice to any products herein. onsemi makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does onsemi assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. onsemi does not convey any license under its patent rights nor the rights of others.

onsemi, **Onsemi**, and other names, marks, and brands are registered and/or common law trademarks of Semiconductor Components Industries, LLC dba "**onsemi**" or its affiliates and/or subsidiaries in the United States and/or other countries. **onsemi** owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of **onsemi**'s product/patent coverage may be accessed at www.onsemi.com/site/pdf/Patent-Marking.pdf. **onsemi** reserves the right to make changes at any time to any products or information herein, without notice. The information herein is provided "as-is" and **onsemi** makes no warranty, representation or guarantee regarding the accuracy of the information, product features, availability, functionality, or suitability of its products for any particular purpose, nor does **onsemi** assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for its products and applications using **onsemi** products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by **onsemi**. "Typical" parameters which may be provided in **onsemi** data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. **onsemi** does not convey any license under any of its intellectual property rights nor the rights of others. **onsemi** products are not designed, intended, or authorized for use as a critical component in life support systems or any FDA Class 3 medical devices or medical devices with a same or similar classification in a foreign jurisdiction or any devices intended for implantation in the human body. Should Buyer purchase or use **onsemi** products for any such unintended or unauthorized application, Buyer shall indemnify and hold **onsemi** and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that **onsemi** was negligent regarding the design or manufacture of the part. **onsemi** is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

ADDITIONAL INFORMATION

TECHNICAL PUBLICATIONS:

Technical Library: www.onsemi.com/design/resources/technical-documentation
onsemi Website: www.onsemi.com

ONLINE SUPPORT: www.onsemi.com/support

For additional information, please contact your local Sales Representative at www.onsemi.com/support/sales