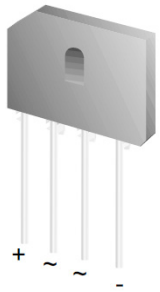
Glass-Passivated Bridge Rectifiers

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

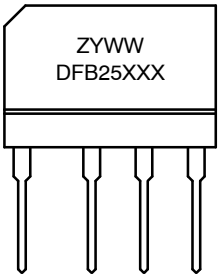


TS−6P
CASE 127EP

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		
DFB2540	DFB2540		
DFB2560	DFB2560		
DFB2580	DFB2580		
DFB25100	DFB25100		

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ABSOLUTE MAXIMUM RATINGS (T_A = 25°C, Unless otherwise specified) (Note 1)

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 2)	4.75							°C/W
T_J	Operating Temperature Range	−55 to +150							°C
T_{STG}	Storage Temperature Range	−55 to +150							°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.

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

ELECTRICAL CHARACTERISTICS (T_A = 25°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°C	10	μA
		T_A = 125°C	500	
I^2t	Rating for Fusing (t < 8.3 ms)		508	A^2s
C_J	Typical Junction Capacitance per Leg (Note 3)		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.

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

TYPICAL PERFORMANCE CHARACTERISTICS

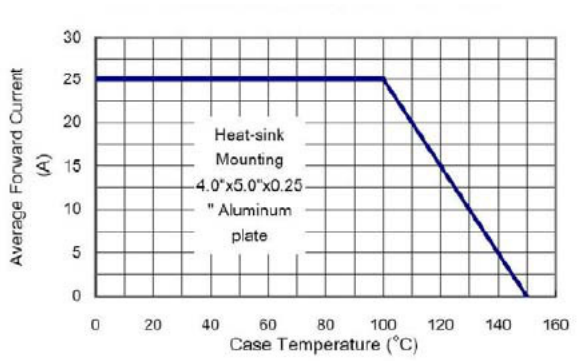


Figure 1. Maximum Derating Curve for Output Current

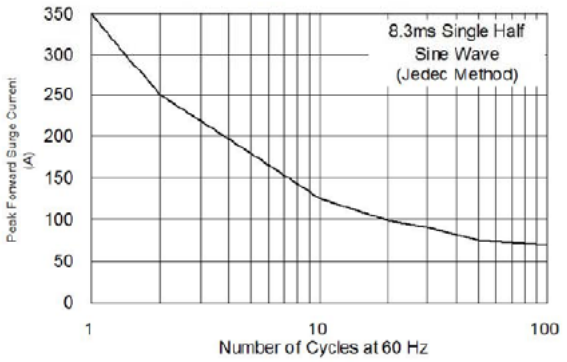


Figure 2. Maximum Forward Surge Current per Leg

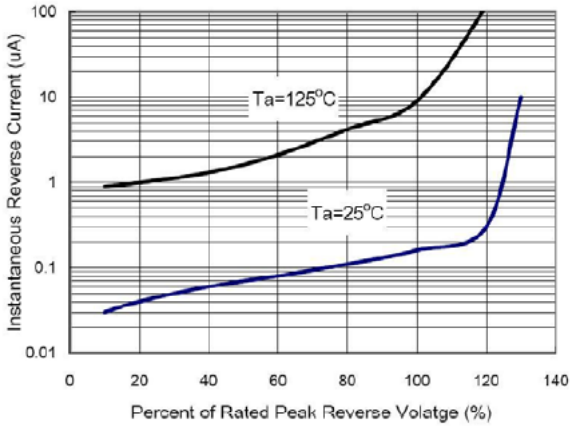


Figure 3. Typical Reverse Characteristics per Leg

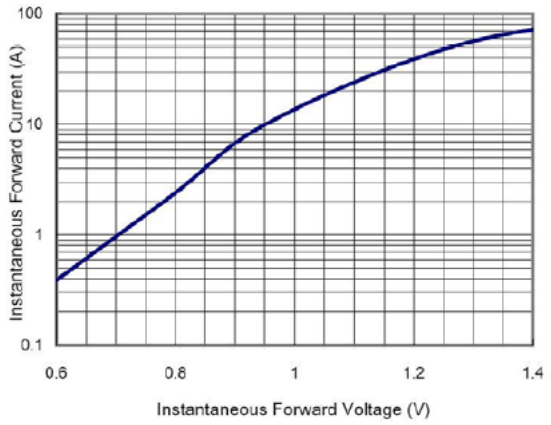


Figure 4. Typical Forward Characteristics per Leg

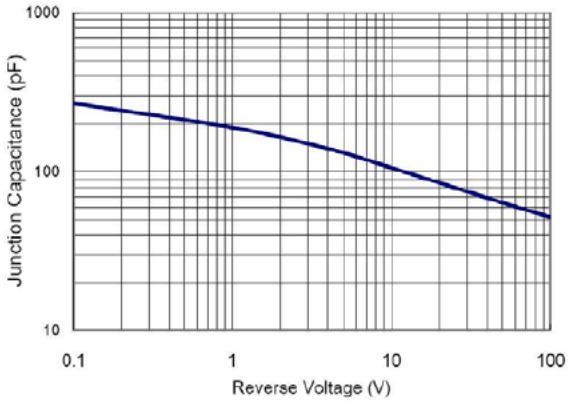


Figure 5. Typical Junction Capacitance

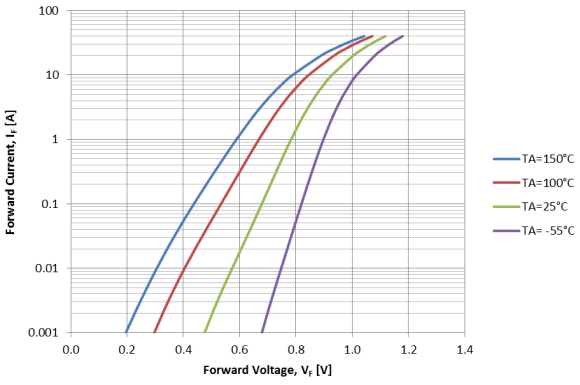


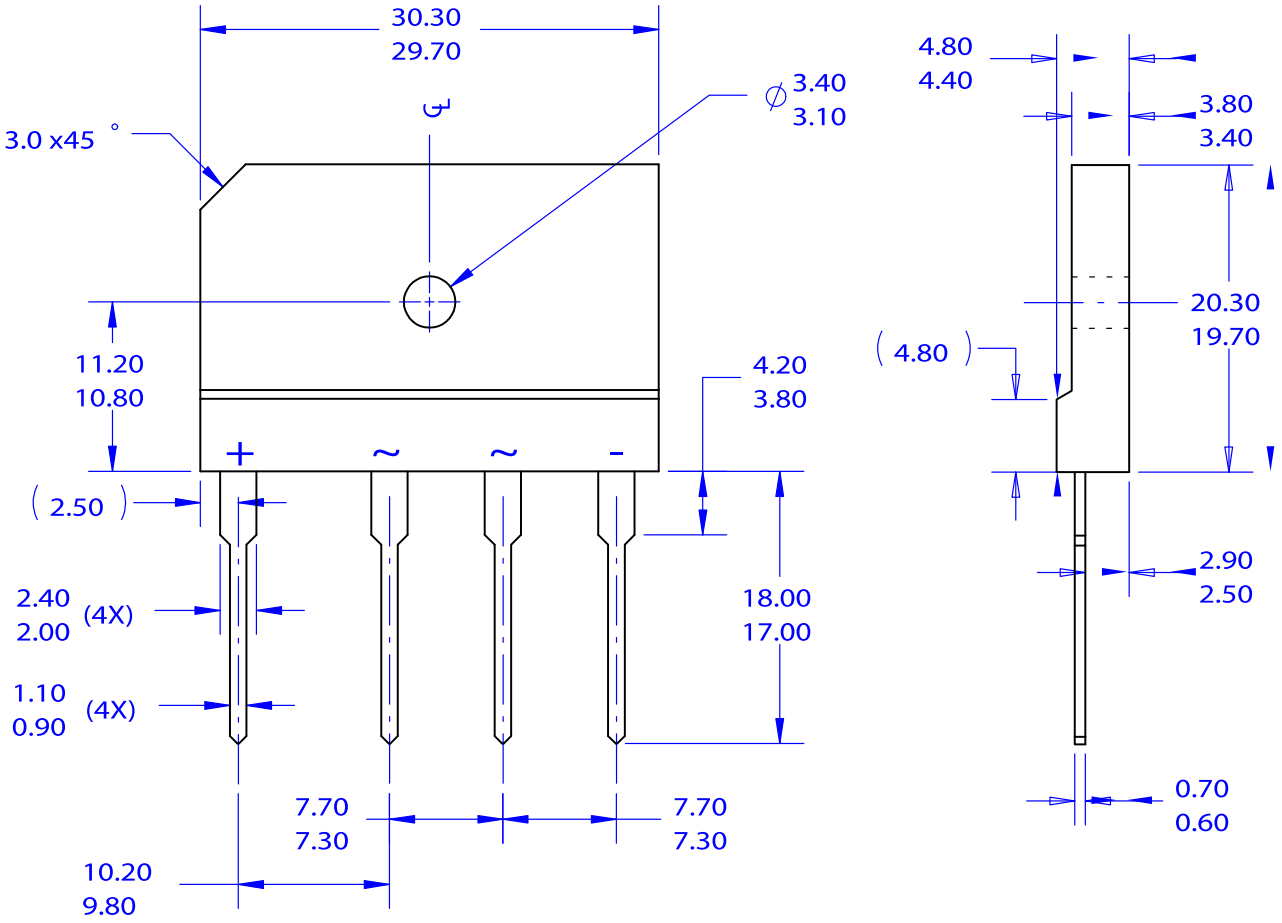
Figure 6. Forward Voltage Characteristics

MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS

ON Semiconductor®

SIP4 30x20
CASE 127EP
ISSUE O

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.

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