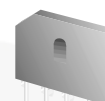


# DFB2505 - DFB25100

## Glass-Passivated Bridge Rectifiers

### 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<sub>RMS</sub>
- Isolated Voltage from Case to Lead: > 2500 V



TS-6P

### Ordering Informations

Part Number	Marking	Package	Packing Method
DFB2505	DFB2505	TS-6P 4L	Rail
DFB2510	DFB2510		
DFB2520	DFB2520		
DFB2540	DFB2540		
DFB2560	DFB2560		
DFB2580	DFB2580		
DFB25100	DFB25100		

## Absolute Maximum Ratings<sup>(1)</sup>

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

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 <sup>(2)</sup>	4.75							$^\circ\text{C/W}$
$T_J$	Operating Temperature Range	-55 to +150							$^\circ\text{C}$
$T_{STG}$	Storage Temperature Range	-55 to +150							$^\circ\text{C}$

### Notes:

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

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise specified.

Symbol	Parameter	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	$\mu\text{A}$
		$T_A = 125^\circ\text{C}$	500	
$I^2t$	Rating for fusing ( $t < 8.3$ ms)		508	$\text{A}^2\text{s}$
$C_J$	Typical Junction Capacitance per Leg <sup>(3)</sup>		110	pF

### Note:

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

## Typical Performance Characteristics

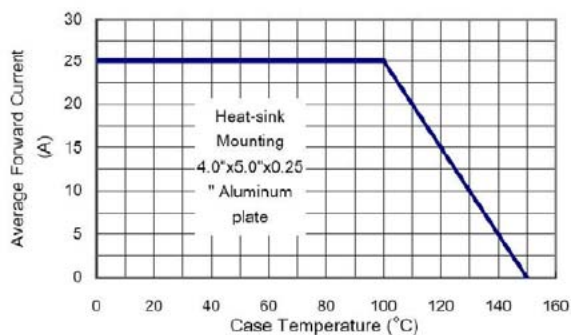


Figure 1. Maximum Derating Curve for Output Current

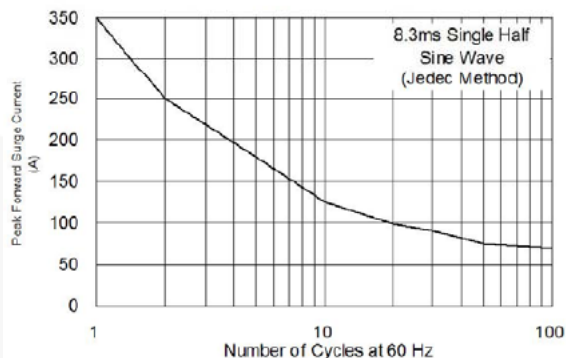


Figure 2. Maximum Forward Surge Current

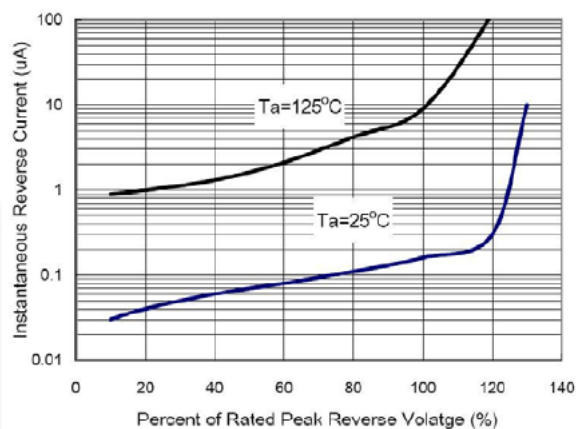


Figure 3. Typical Reverse Characteristics per Leg

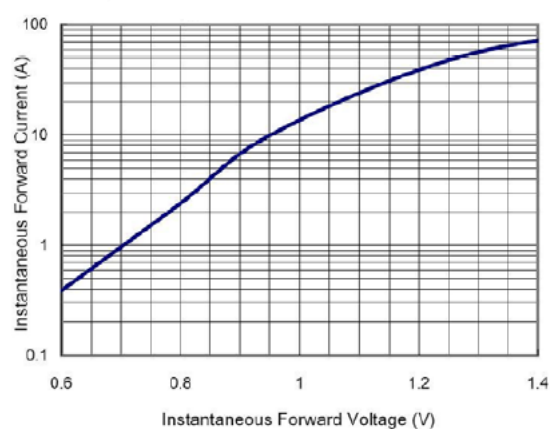


Figure 4. Typical Forward Characteristics per Leg

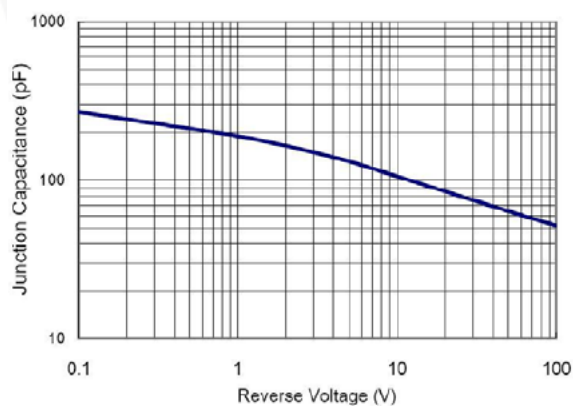
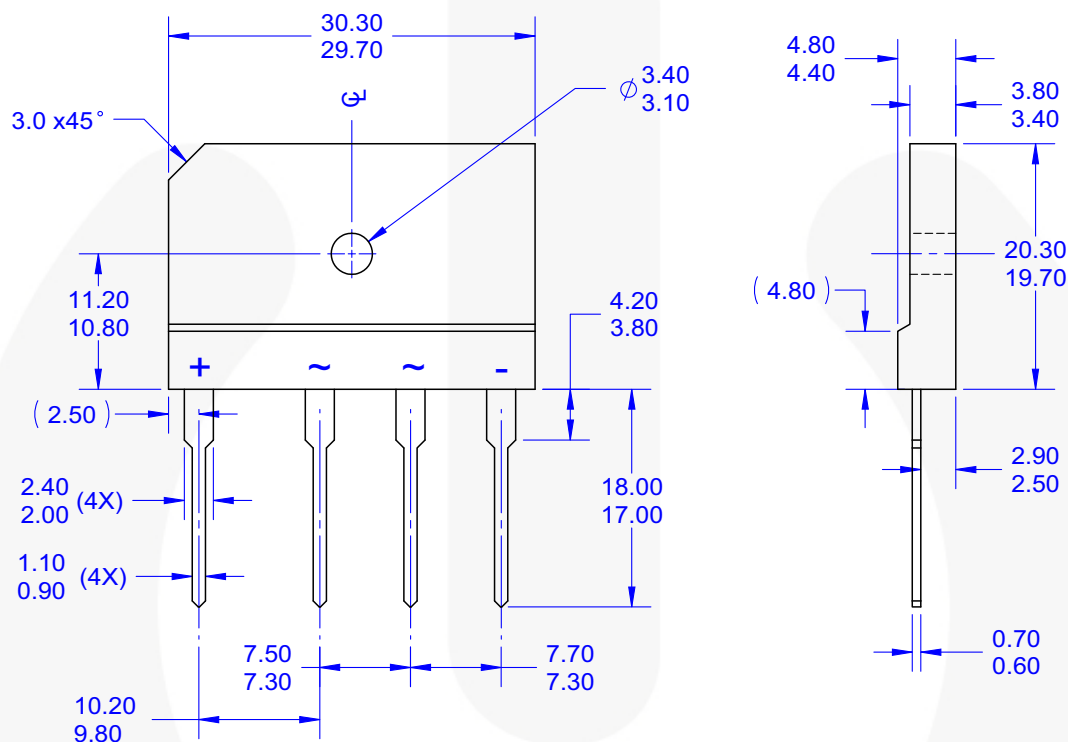


Figure 5. Typical Junction Capacitance

## Physical Dimension

## TS-6P



## 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.
- D. DRAWING FILE NAME: TS6P04AREV1

Figure 6. 4-LEAD, TS6P, THROUGH-HOLE, MOLDED PACKAGE (ACTIVE)

Package drawings are provided as a service to customers considering Fairchild components. Drawings may change in any manner without notice. Please note the revision and/or date on the drawing and contact a Fairchild Semiconductor representative to verify or obtain the most recent revision. Package specifications do not expand the terms of Fairchild's worldwide terms and conditions, specifically the warranty therein, which covers Fairchild products.

Always visit Fairchild Semiconductor's online packaging area for the most recent package drawings:

<http://www.fairchildsemi.com/dwg/TS/TS6P04A.pdf>

## TRADEMARKS

The following includes registered and unregistered trademarks and service marks, owned by Fairchild Semiconductor and/or its global subsidiaries, and is not intended to be an exhaustive list of all such trademarks.

AccuPower™	F-PFS™		Sync-Lock™
AX-CAP®*	FRFET®	PowerXS™	
BitSiC™	Global Power Resource <sup>SM</sup>	PowerTrench®	TinyBoost®
Build it Now™	GreenBridge™	PowerXS™	TinyBuck®
CorePLUS™	Green FPS™	Programmable Active Droop™	TinyCalc™
CorePOWER™	Green FPS™ e-Series™	QFET®	TinyLogic®
CROSSVOLT™	Gmax™	QS™	TINYOPTO™
CTL™	GTO™	Quiet Series™	TinyPower™
Current Transfer Logic™	IntelliMAX™	RapidConfigure™	TinyPWM™
DEUXPEED®	ISOPLANAR™		TinyWire™
Dual Cool™	Making Small Speakers Sound Louder and Better™	Saving our world, 1mW/W/kW at a time™	TranSiC™
EcoSPARK®	MegaBuck™	SignalWise™	TriFault Detect™
EfficientMax™	MICROCOUPLER™	SmartMax™	TRUECURRENT®*
ESBC™	MicroFET™	SMART START™	μSerDes™
	MicroPak™	Solutions for Your Success™	
Fairchild®	MicroPak2™	SPM®	UHC®
Fairchild Semiconductor®	MillerDrive™	STEALTH™	Ultra FRFET™
FACT Quiet Series™	MotionMax™	SuperFET®	UniFET™
FACT®	mWSaver®	SuperSOT™-3	VCX™
FAST®	OptoHiT™	SuperSOT™-6	VisualMax™
FastvCore™	OPTOLOGIC®	SuperSOT™-8	VoltagePlus™
FETBench™	OPTOPLANAR®	SupreMOS®	XS™
FPS™		SyncFET™	

\* Trademarks of System General Corporation, used under license by Fairchild Semiconductor.

## DISCLAIMER

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION, OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS. THESE SPECIFICATIONS DO NOT EXPAND THE TERMS OF FAIRCHILD'S WORLDWIDE TERMS AND CONDITIONS, SPECIFICALLY THE WARRANTY THEREIN, WHICH COVERS THESE PRODUCTS.

## LIFE SUPPORT POLICY

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF FAIRCHILD SEMICONDUCTOR CORPORATION.

As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury of the user.
2. A critical component in any component of a life support, device, or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

## ANTI-COUNTERFEITING POLICY

Fairchild Semiconductor Corporation's Anti-Counterfeiting Policy. Fairchild's Anti-Counterfeiting Policy is also stated on our external website, [www.fairchildsemi.com](http://www.fairchildsemi.com), under Sales Support.

Counterfeiting of semiconductor parts is a growing problem in the industry. All manufacturers of semiconductor products are experiencing counterfeiting of their parts. Customers who inadvertently purchase counterfeit parts experience many problems such as loss of brand reputation, substandard performance, failed applications, and increased cost of production and manufacturing delays. Fairchild is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. Fairchild strongly encourages customers to purchase Fairchild parts either directly from Fairchild or from Authorized Fairchild Distributors who are listed by country on our web page cited above. Products customers buy either from Fairchild directly or from Authorized Fairchild Distributors are genuine parts, have full traceability, meet Fairchild's quality standards for handling and storage and provide access to Fairchild's full range of up-to-date technical and product information. Fairchild and our Authorized Distributors will stand behind all warranties and will appropriately address any warranty issues that may arise. Fairchild will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources. Fairchild is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.

## PRODUCT STATUS DEFINITIONS

### Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative / In Design	Datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	Datasheet contains preliminary data; supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
No Identification Needed	Full Production	Datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve the design.
Obsolete	Not In Production	Datasheet contains specifications on a product that is discontinued by Fairchild Semiconductor. The datasheet is for reference information only.

Rev. I66