



# THE DATASHEET OF BF3510TV





## FULL 50-60Hz RECTIFICATION BRIDGE

PRELIMINARY DATASHEET

### MAIN PRODUCT CHARACTERISTICS

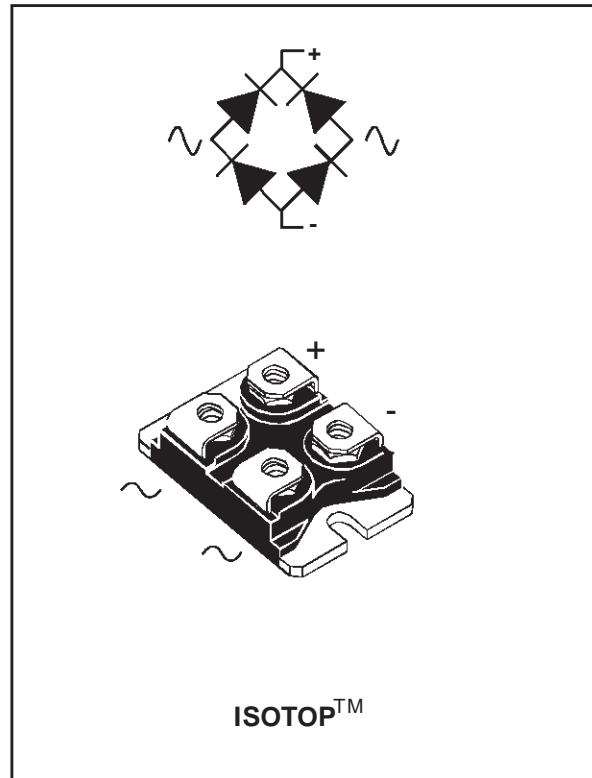
$I_{F(AV)}$	35 A
$V_{RRM}$	1000 V
$T_j(\text{max})$	150 °C
$V_F(\text{max})$	1.30 V

### FEATURES AND BENEFITS

- COMPACT ISOTOP DESIGN COMPATIBLE WITH FAST DIODES AND TRANSISTORS.
- EXCELLENT THERMAL TRANSFER BETWEEN JUNCTION AND HEATSINK
- UL PENDING

### DESCRIPTION

The Bridges series from ST Microelectronics has been designed to allow a better standardization of packages on boards principally designed with ISOTOP packages. The insulated package of the bridge will be able to sit on heatsink with other components. Single phase and 3-phase high power SMPS, UPS, MOTOR DRIVES and WELDING equipment will primarily find advantage in these industry package products.



### ABSOLUTE RATINGS AND ELECTRICAL CHARACTERISTICS (per diode unless specified)

Symbol	Parameter	Value	Unit
$V_{RRM}$	Repetitive peak reverse voltage	1000	V
$V_{RSM}$	Non repetitive peak reverse voltage	1000	V
$I_{F(AV)}$ total	Average forward current   $T_c = 80^\circ\text{C}$ sinusoidal	35	A
$I_{FSM}$	Surge non repetitive forward current 50Hz JEDEC method	300	A
$I^2.t$	Fusing	660	$\text{A}^2.\text{s}$
$T_{stg}$	Storage temperature range	- 55 to + 150	°C
$T_j$	Maximum operating junction temperature	150	°C
$P_{\text{max total}}$	Total power dissipation	50	W

TM : ISOTOP is a trademark of ST Microelectronics.

## BF3510TV

### THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
Rth (j-c)	Junction to case	total	0.5	°C/W

### ELECTRICAL CHARACTERISTICS (Per diode) STATIC CHARACTERISTICS

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit	
I <sub>R</sub> *	Reverse leakage current	V <sub>R</sub> = 0.8 V <sub>RRM</sub> δ < 2% t <sub>p</sub> = 5ms	T <sub>j</sub> = 25°C			10	μA
			T <sub>j</sub> = 125°C			0.2	mA
V <sub>F</sub> **	Forward voltage drop	I <sub>F</sub> = 35 A δ < 2% t <sub>p</sub> = 380μs	T <sub>j</sub> = 25°C			1.4	V
			T <sub>j</sub> = 125°C			1.3	V

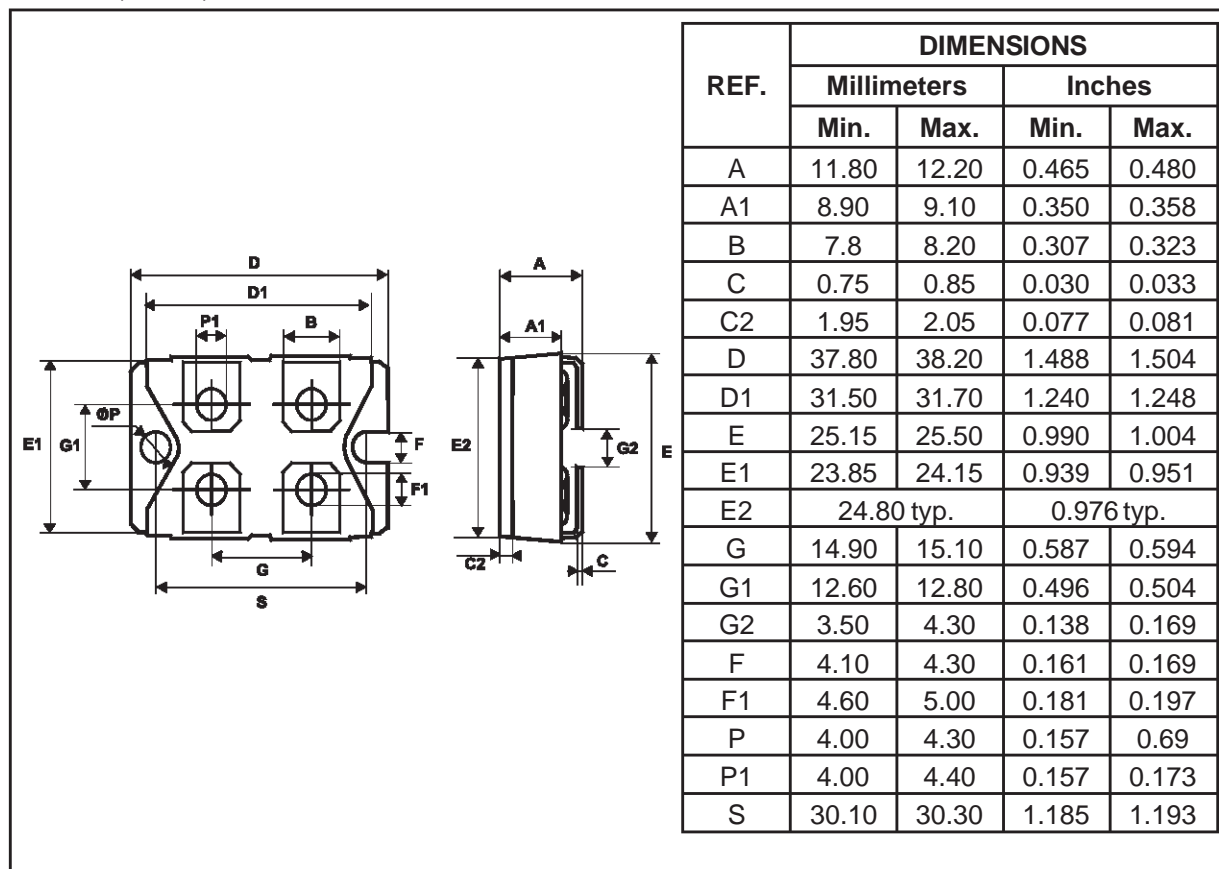
Pulse test : \* t<sub>p</sub> = 5 ms, duty cycle < 2 %

\*\* t<sub>p</sub> = 380 μs, duty cycle < 2 %

For one diode: P<sub>cond</sub> = 1.02 x I<sub>F(AV)</sub> + 0.008 x I<sub>F(RMS)</sub><sup>2</sup>

T<sub>j</sub> = P<sub>cond</sub> x 4 x R<sub>th(j-c)</sub> + T<sub>c</sub>

**PACKAGE MECHANICAL DATA**  
ISOTOP (Plastic)



Cooling method : by conduction (C)  
Electrical isolation : 2500V<sub>(RMS)</sub>

Capacitance : < 45 pF  
Inductance : < 5 nH

- Recommended torque value : 1.3 N.m (MAX 1.5 N.m) for the 6 x M4 screws. (2 x M4 screws recommended for mounting the package on the heatsink and the 4 screws given with the screw version).
- The screws supplied with the package are adapted for mounting on a board (or other types of terminals) with a thickness of 0.6 mm min and 2.2 mm max.

Ordering type	Marking	Package	Weight	Base qty	Delivery mode
BF3510TV	BF3510TV	ISOTOP	27g without screws	10	Tube

■ Epoxy meets UL94,V0

Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

The ST logo is a registered trademark of STMicroelectronics

© 1999 STMicroelectronics - Printed in Italy - All rights reserved.

STMicroelectronics GROUP OF COMPANIES


Australia - Brazil - China - Finland - France - Germany - Hong Kong - India - Italy - Japan - Malaysia  
Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - U.S.A.

<http://www.st.com>



## Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

-  [View BF3510TV on WIN SOURCE](#)
-  [STMicroelectronics Information](#)

## Optimize Your Supply Chain with WIN SOURCE Solutions

-  Global Sourcing Solution
-  Obsolete Management
-  Cost Control Management
-  Shortage Management
-  Alternative Solution
-  Excess Inventory Management