

## FULL 50-60Hz RECTIFICATION BRIDGE

PRELIMINARY DATASHEET

### MAIN PRODUCT CHARACTERISTICS

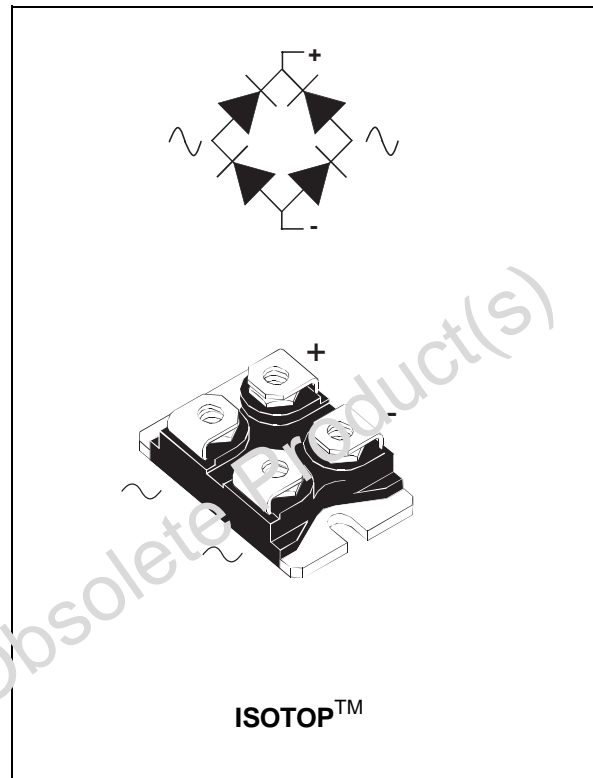
$I_{F(AV)}$	35 A
$V_{RRM}$	1000 V
$T_j \text{ (max)}$	150 °C
$V_F \text{ (max)}$	1.30 V

### 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 ISO-TOP 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
$I_{F(AV)} \text{ total}$	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	A <sup>2</sup> .s
$T_{stg}$	Storage temperature range		- 55 to + 150	°C
$T_j$	Maximum operating junction temperature		150	°C
$P_{max} \text{ total}$	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% tp = 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% tp = 380μs	T <sub>j</sub> = 25°C			1.4	V
			T <sub>j</sub> = 125°C			1.3	V

Pulse test : \* tp = 5 ms, duty cycle < 2 %

\*\* tp = 380 μs, duty cycle < 2 %

For one diode:  $P_{cond} = 1.02 \times I_{F(AV)} + 0.008 \times I_{F(RMS)}^2$   
 $T_j = P_{cond} \times 4 \times R_{th(j-c)} + T_c$

**PACKAGE MECHANICAL DATA**  
 ISOTOP (Plastic)

REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	11.80	12.20	0.465	0.480
A1	8.90	9.10	0.350	0.358
B	7.8	8.20	0.307	0.323
C	0.75	0.85	0.030	0.033
C2	1.95	2.05	0.077	0.081
D	37.80	38.20	1.488	1.504
D1	31.50	31.70	1.240	1.248
E	25.15	25.50	0.990	1.004
E1	23.85	24.15	0.939	0.951
E2	24.80 typ.		0.976 typ.	
G	14.90	15.10	0.587	0.594
G1	12.60	12.80	0.496	0.504
G2	3.50	4.30	0.138	0.169
F	4.10	4.30	0.161	0.169
F1	4.60	5.00	0.181	0.197
P	4.00	4.30	0.157	0.69
P1	4.00	4.40	0.157	0.173
S	30.10	30.30	1.185	1.193

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>



# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[STMicroelectronics:](#)

[BF3510TV](#)