

**BF3510TV****FULL 50-60Hz RECTIFICATION BRIDGE**

PRELIMINARY DATASHEET

**MAIN PRODUCT CHARACTERISTICS**

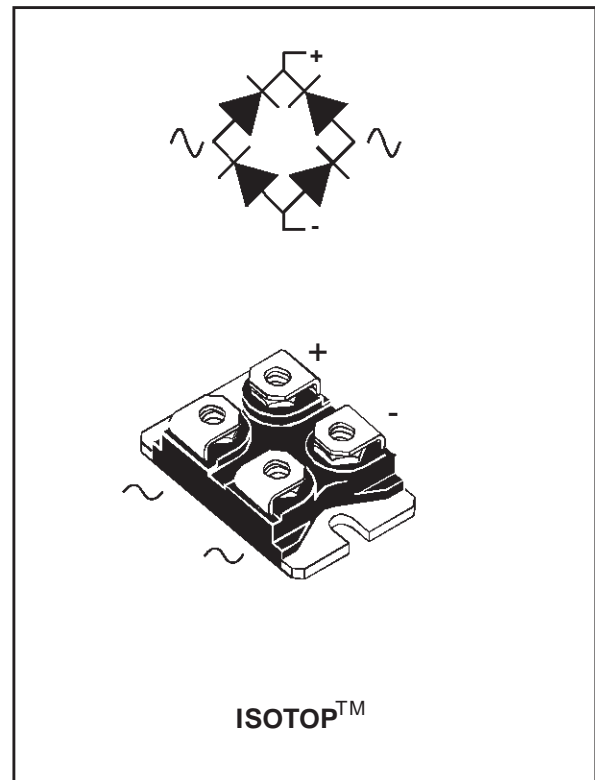
$I_{F(AV)}$	35 A
$V_{RRM}$	1000 V
$T_j(max)$	150 °C
$V_F(max)$	1.30 V

**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	$T_c = 80^{\circ}C$ 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
$P_{max} total$	Total power dissipation		50	W

TM : ISOTOP is a trademark of ST Microelectronics.

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## 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

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