



## FULL 50-60Hz RECTIFICATION BRIDGE

PRELIMINARY DATASHEET

### MAIN PRODUCT CHARACTERISTICS

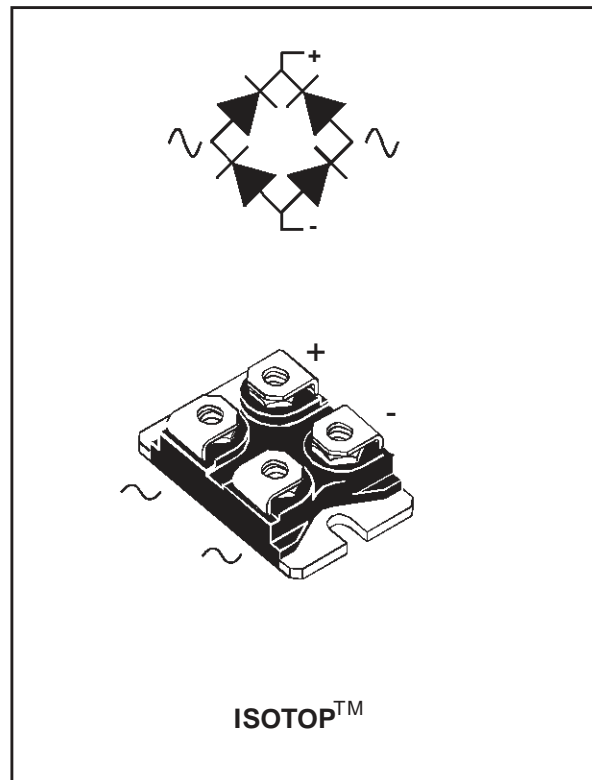
$I_{F(AV)}$	35 A
$V_{RRM}$	1000 V
$T_j(\text{max})$	150 °C
$V_F(\text{max})$	1.30 V

### 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

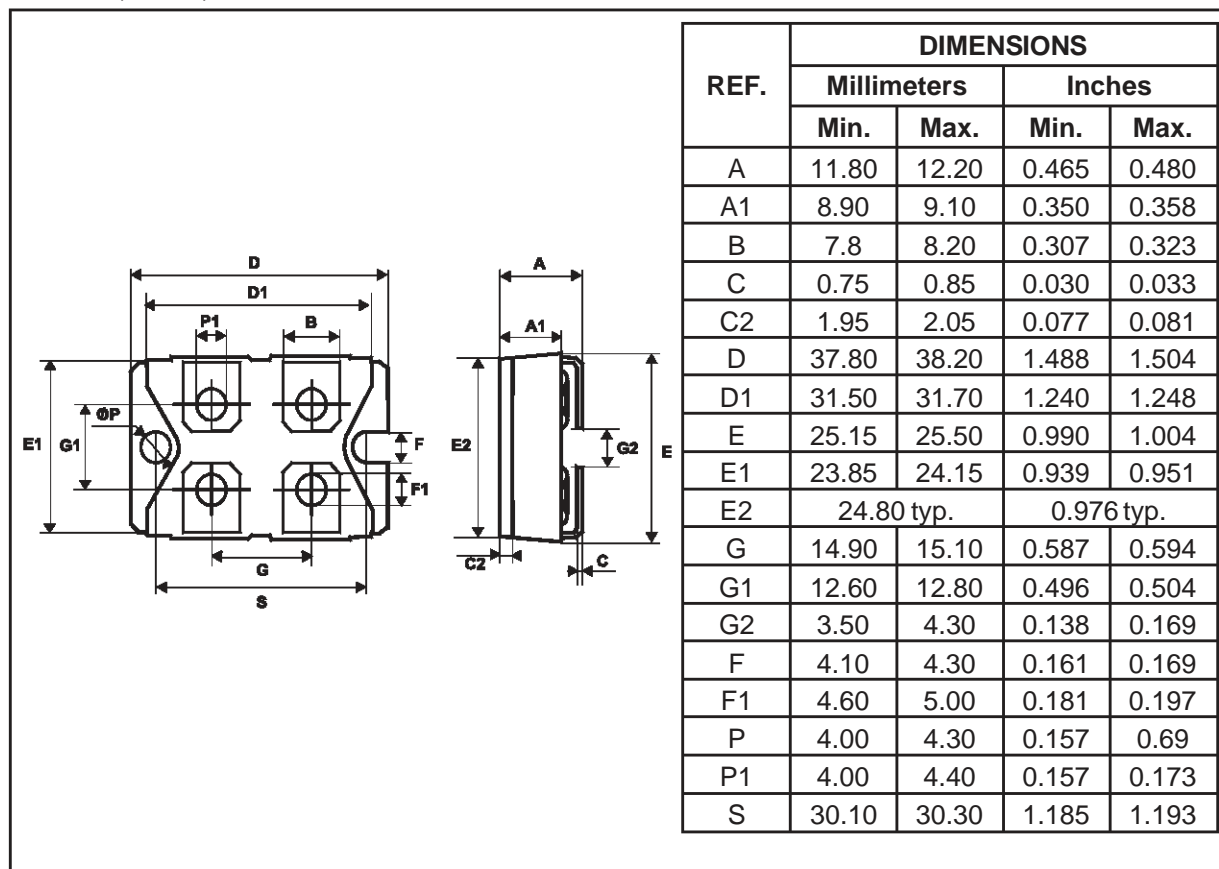
Pulse test : \* t<sub>p</sub> = 5 ms, duty cycle < 2 %

\*\* 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

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