BF3510TV

FULL 50-60Hz RECTIFICATION BRIDGE

PRELIMINARY DATASHEET

MAIN PRODUCT CHARACTERISTICS

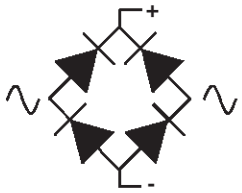
$I_{F(AV)}$	35 A
V_{RRM}	1000 V
Tj (max)	150 °C
V_F (max)	1.30 V

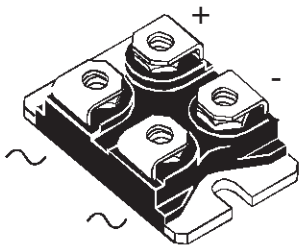
FEATURES AND BENEFITS

- 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.





ISOTOP™

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	Tc = 80°C sinusoidal	35	A
I_{FSM}	Surge non repetitive forward current 50Hz JEDEC method		300	A
$I^2.t$	Fusing		660	$A^2.s$
T_{stg}	Storage temperature range		- 55 to + 150	°C
Tj	Maximum operating junction temperature		150	°C
Pmax total	Totol power dissipation		50	W

TM : ISOTOP is a trademark of ST Microelectronics.

THERMAL RESISTANCES

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

ELECTRICAL CHARACTERISTICS (Per diode)
STATIC CHARACTERISTICS

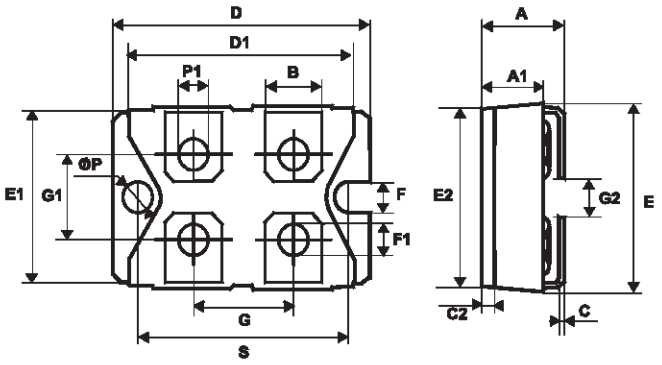
Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I_R *	Reverse leakage current	$V_R = 0.8\ V_{RRM}$ $\delta < 2\%$ tp = 5ms	T_j = 25°C			10	µA
			T_j = 125°C			0.2	mA
V_F **	Forward voltage drop	I_F = 35 A $\delta < 2\%$ tp = 380µs	T_j = 25°C			1.4	V
			T_j = 125°C			1.3	V

Pulse test : * tp = 5 ms, duty cycle < 2 %
** tp = 380 µs, duty cycle < 2 %

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

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$_{(RMS)}$

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