SGS-THOMSON MICROELECTRONICS

BF3506TV

FULL 50-60Hz RECTIFICATION BRIDGE

PRELIMINARY DATASHEET

MAIN PRODUCT CHARACTERISTICS

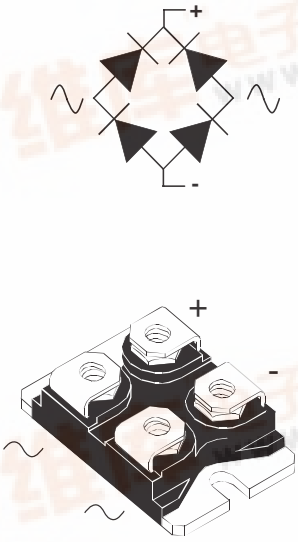
$I_{F(AV)}$	35A
V_{RRM}	600V
V_F (max)	1.3V

FEATURES AND BENEFITS

- COMPACT ISOTOP DESIGN COMPATIBLE WITH FAST DIODES, TRANSISTORS AND PASSIVE COMPONENTS.
- EXCELLENT THERMAL TRANSFER JUNCTION TI HEATSINK
- UL PENDING

DESCRIPTION

The Bridges series from SGS-THOMSON 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.



Screw version

ISOTOP™
(Plastic)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (per diode unless specified)

Symbol	Parameter		Value	Unit
V_{RRM}	Repetitive peak reverse voltage		600	V
V_{RSM}	Non repetitive peak reverse voltage		600	V
$I_{F(AV)}$ total	Average forward current	Tc=80°C Sinus	35	A
I_{FSM}	Surge non repetitive forward current 50Hz JEDEC method		300	A
I^2t	Fusing		660	A^2s
Tstg	Storage temperature range		- 65 to + 150	°C
Tj	Max. operating junction temperature		150	°C
Pmax total	Total power dissipation		50	W

TM : ISOTOP is a trademark of SGS-THOMSON Microelectronics.

THERMAL RESISTANCE

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

ELECTRICAL CHARACTERISTICS (Per diode)

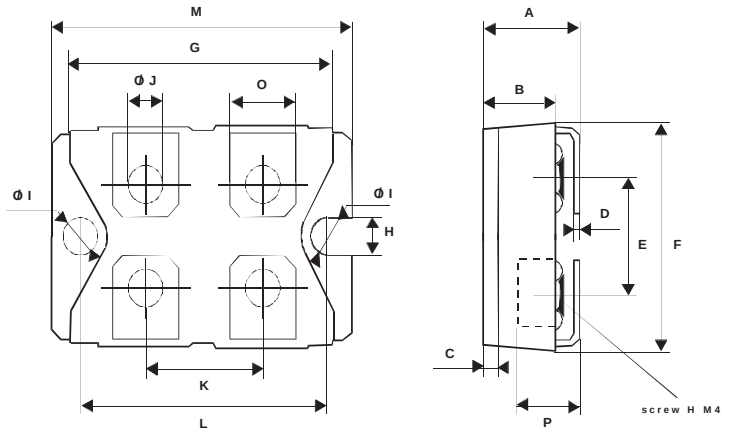
STATIC CHARACTERISTICS

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I_R *	Reverse leakage current	V_R = 0.8 V_{RRM} δ < 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 δ < 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: Pcond = 1.02 x $I_{F(AV)}$ + 0.008 x $I^2_{F(RMS)}$ and Tj = Pcond x 4 x $R_{th(j-c)}$ + Tc

PACKAGE DATA (millimeter)
ISOTOP (Plastic)



REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	11.80	12.20	0.465	0.480
B	8.90	9.10	0.350	0.358
C	1.95	2.05	0.077	0.081
D	0.75	0.85	0.029	0.034
E	12.60	12.80	0.496	0.504
F	25.10	25.50	0.988	1.004
G	31.50	31.70	1.240	1.248
H	4.00		0.157	
I	4.10	4.30	0.161	0.169
J	4.10	4.30	0.161	0.169
K	14.90	15.10	0.586	0.595
L	30.10	30.30	1.185	1.193
M	37.80	38.20	1.488	1.504
O	7.80	8.20	0.307	0.323
P	5.50		0.216	

Cooling method : C
Marking : Type number
Weight : 28 g. (without screws)

Electrical isolation : 2500$V_{(RMS)}$
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.