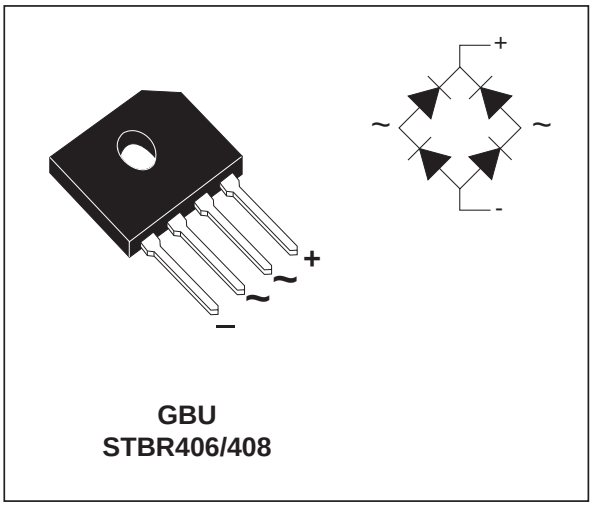
STBR406/408

50-60Hz RECTIFICATION BRIDGE

MAJOR PRODUCT CHARACTERISTICS

$I_{F(AV)}$	**4 A**
V_{RRM}	**600 V / 800 V**
V_F **(max)**	**1.05 V**



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FEATURES AND BENEFITS

- Dielectric strength of 2000V
- High Surge overload rating
- High Surge current capability
- UL94V0
- Planar technology

DESCRIPTION

Single-phase 4A Bridge for 50 & 60Hz rectification in Switch Mode Power Supplies.
Application: Home appliances, Automation, Telecommunications, PC, Servers.

ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		STBR406	STBR408	Unit
V_{RRM}	Repetitive peak reverse voltage		600	800	V
V_{RMS}	RMS Voltage		420	560	V
V_{DC}	DC Blocking voltage		600	800	V
$I_{F(AV)}$	Average Forward Current	T_C = 90°C	4		A
I_{FSM}	Non repetitive surge peak forward current	tp = 8.3 ms Single sine wave (JEDEC method)	120		A
I^2t	Rating for Fusing (tp < 8.3ms)		60		A^2S
Tj	Maximum operating junction temperature		150		°C
T_{stg}	Storage temperature range		- 50 to 150		°C

THERMAL PARAMETERS

Symbol	Parameter	Min.	Typ.	Max.	Unit
$R_{th(j-c)}$	Junction to case		7.6	8.4	°C/W
$R_{th(j-a)}$	Junction to ambient			35	°C/W

ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test conditions		Min.	Typ.	Max.	Unit
V_F	Forward voltage drop	I_F = 4A				1.05	V
I_R	Reverse leakage current per leg	$V_R = V_{RRM}$	Tj = 25°C			5	µA
			Tj =125°C			50	µA
C	Junction capacitance per leg (note 1)				40		pF

Note 1: Measured at 1MHz and applied reverse voltage of 4V.

Fig. 1: Average power dissipation of bridge versus average output current.

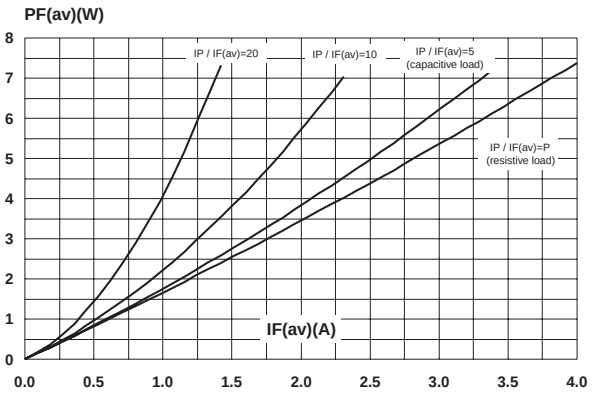


Fig. 2: Average output current versus ambient temperature (resistive load or inductive load)

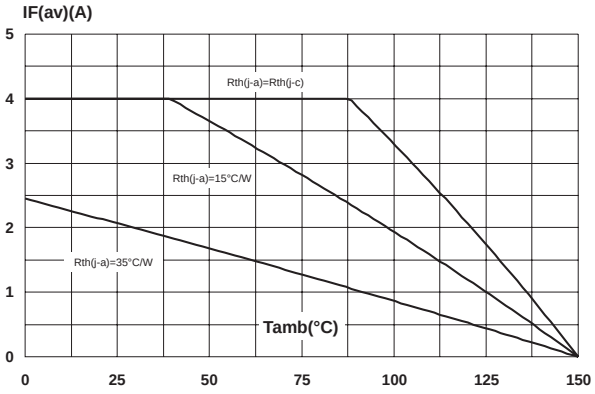


Fig. 3: Variation of thermal impedance junction to ambient versus pulse duration (printed circuit board epoxy FR4).

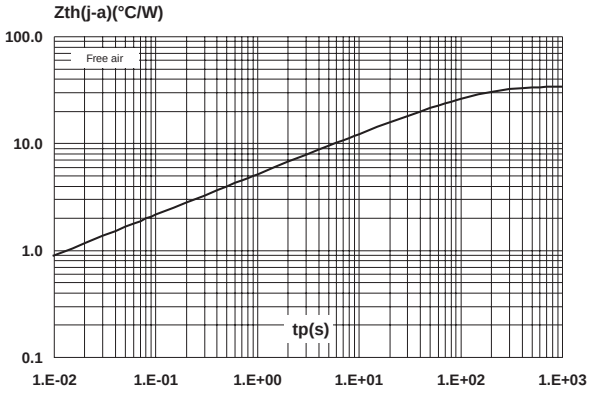


Fig. 4: Forward voltage drop versus forward current (typical values, per leg).

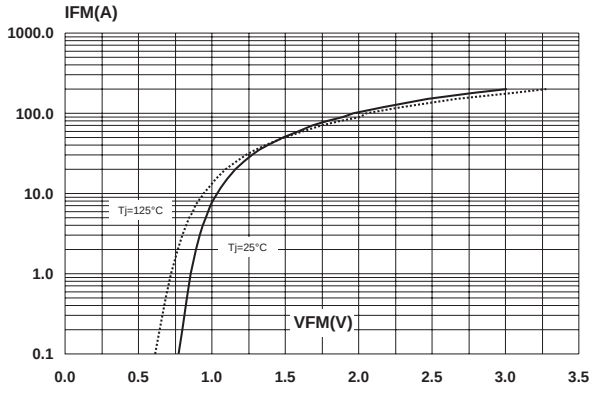


Fig. 5: Reverse leakage current versus reverse voltage applied (typical values, per leg).

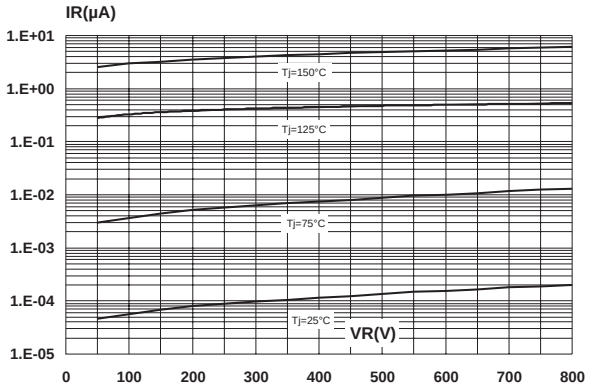


Fig. 6: Reverse leakage current versus junction temperature (typical values).

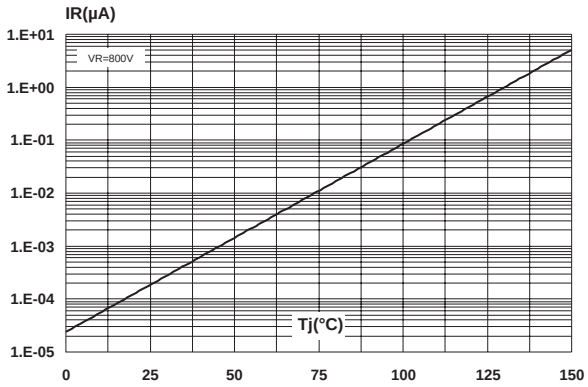


Fig. 7: Junction capacitance versus reverse voltage applied (typical values).

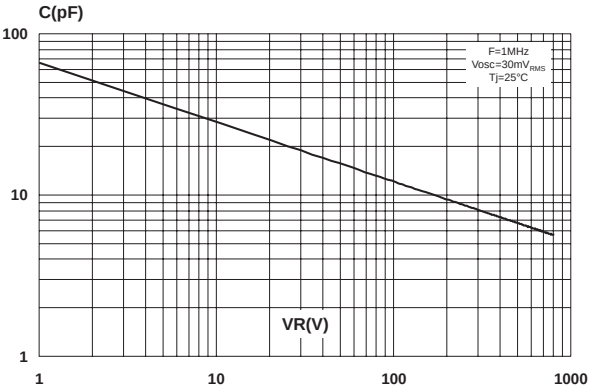


Fig. 8: Softness factor versus dIF/dt (typical values).

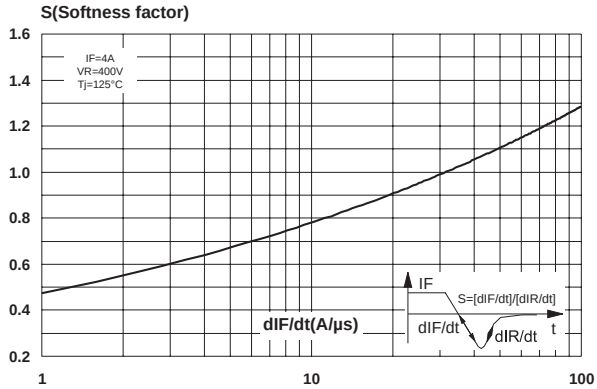
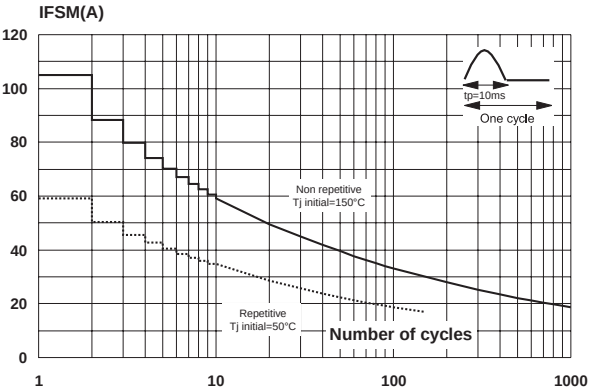


Fig. 9: Surge peak forward current versus number of cycles (per leg).



PACKAGE MECHANICAL DATA

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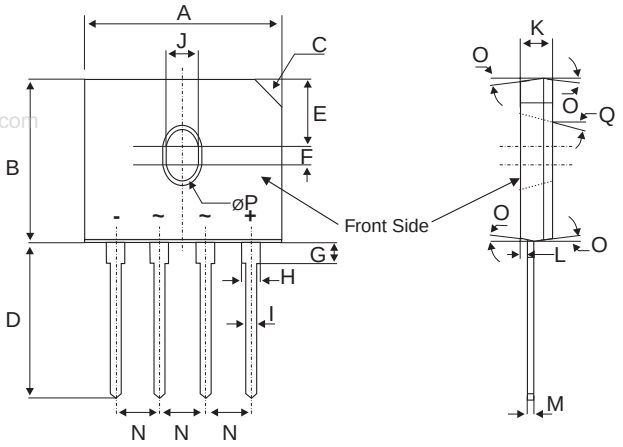

REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	21.8	22.3	0.86	0.88
B	18.3	18.8	0.72	0.74
C	3.2 typ. 45°		0.125 typ. 45°	
D	17.5	18	0.69	0.71
E	7.4	7.9	0.29	0.31
F	1.65	2.16	0.065	0.085
G	2.25	2.75	0.089	0.108
H	1.95	2.35	0.077	0.093
I	1.02	1.27	0.04	0.05
J	3.5	4.1	0.14	0.16
K	3.3	3.56	0.13	0.14
L	0.76	1	0.03	0.04
M	0.46	0.56	0.018	0.022
N	4.83	5.33	0.19	0.21
O	7° typ.		7° typ.	
P	1.9 typ.		0.075 typ.	
Q	7° typ.		7° typ.	

Ordering type	Marking	Package	Weight	Base qty	Delivery mode
STBR406	STBR406	GBU	4.0g	20	Tube
STBR408	STBR408	GBU	4.0g	20	Tube

- Epoxy meets UL94,V0
- Cooling method: C
- Recommended torque value: 0.8 m.N
- Maximum torque value: 1.0 m.N