

50-60Hz RECTIFICATION BRIDGE

MAJOR PRODUCT CHARACTERISTICS

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

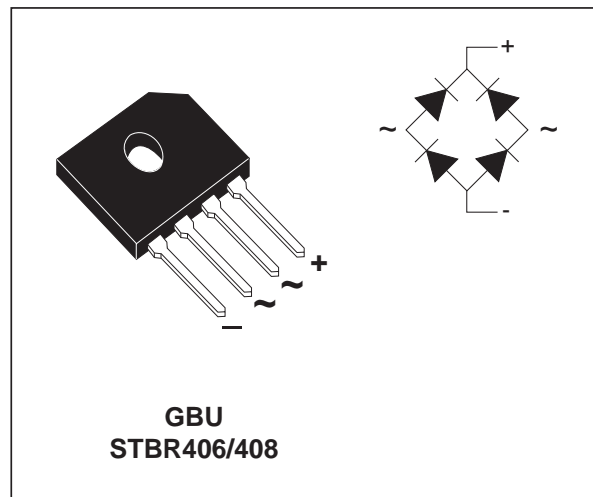
FEATURES AND BENEFITS

- 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	$T_C = 90^\circ\text{C}$	4		A
I_{FSM}	Non repetitive surge peak forward current	$t_p = 8.3 \text{ ms}$ Single sine wave (JEDEC method)	120		A
I^2t	Rating for Fusing ($t_p < 8.3\text{ms}$)		60		A^2S
T_j	Maximum operating junction temperature		150		$^\circ\text{C}$
T_{stg}	Storage temperature range		- 50 to 150		$^\circ\text{C}$

THERMAL PARAMETERS

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

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	$V_R = V_{RRM}$	$T_j = 25^{\circ}C$		5	μA
			$T_j = 125^{\circ}C$		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.

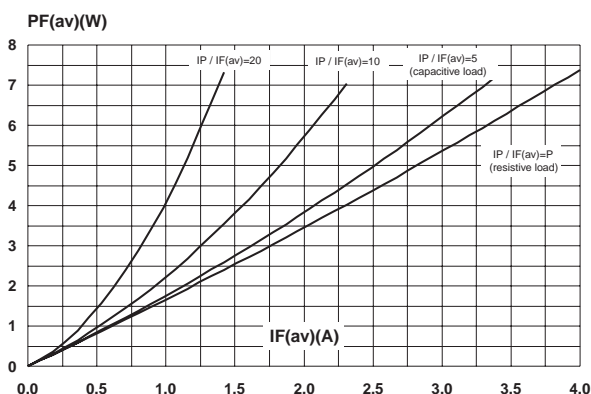


Fig. 3: Variation of thermal impedance junction to ambient versus pulse duration (printed circuit board epoxy FR4).

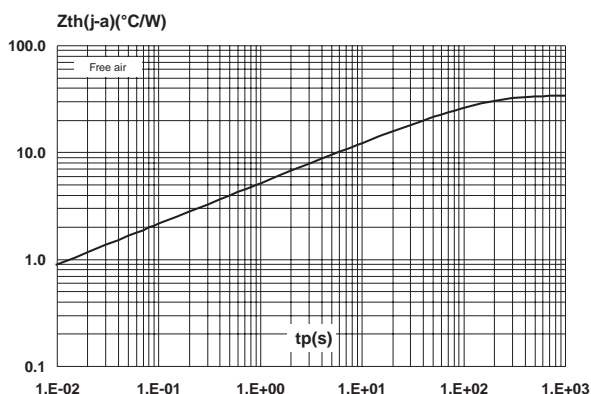


Fig. 2: Average output current versus ambient temperature (resistive load or inductive load)

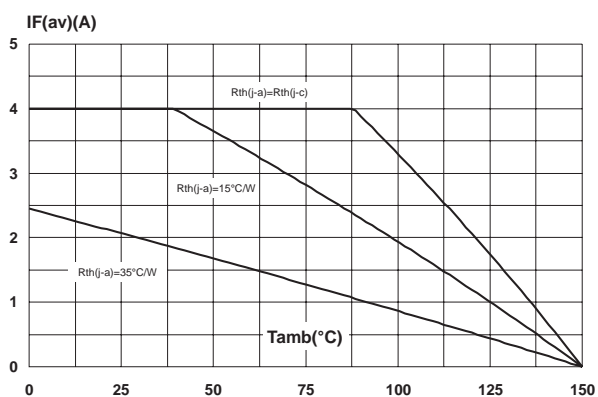


Fig. 4: Forward voltage drop versus forward current (typical values, per leg).

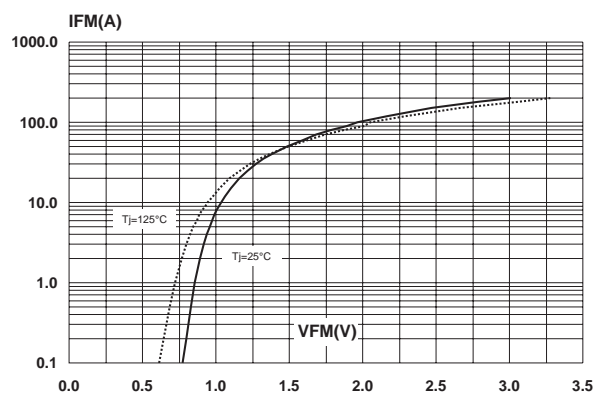


Fig. 5: Reverse leakage current versus reverse voltage applied (typical values, per leg).

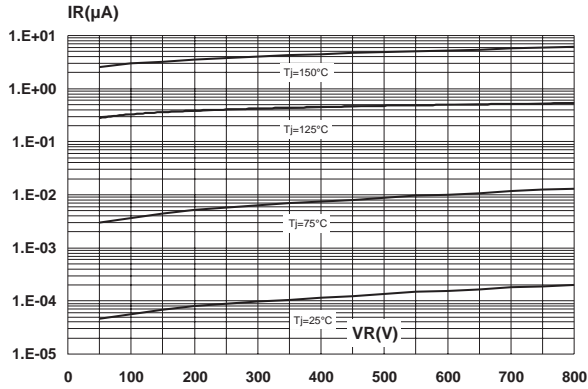


Fig. 6: Reverse leakage current versus junction temperature (typical values).

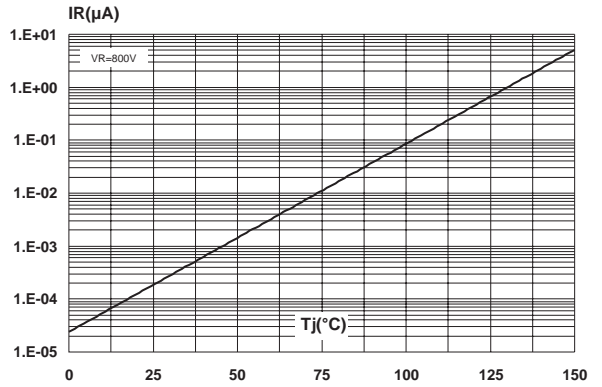


Fig. 7: Junction capacitance versus reverse voltage applied (typical values).

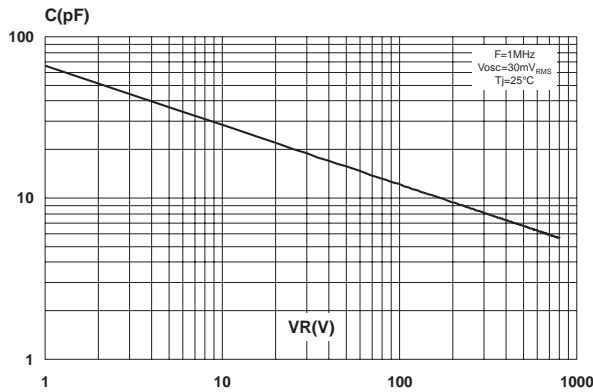


Fig. 8: Softness factor versus dI_F/dt (typical values).

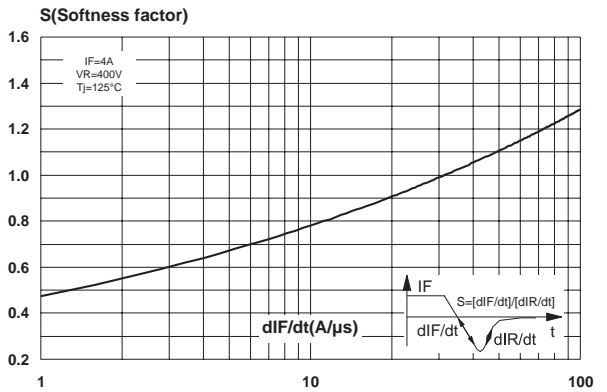
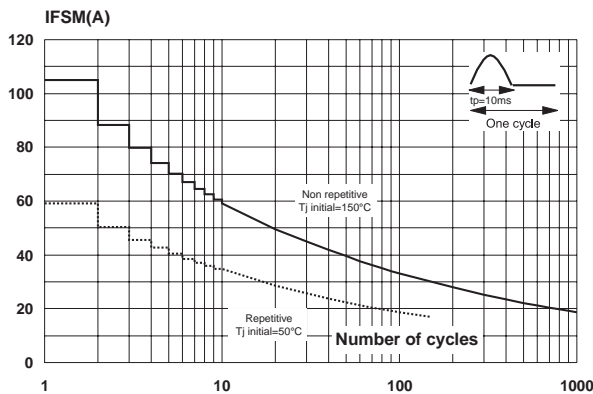
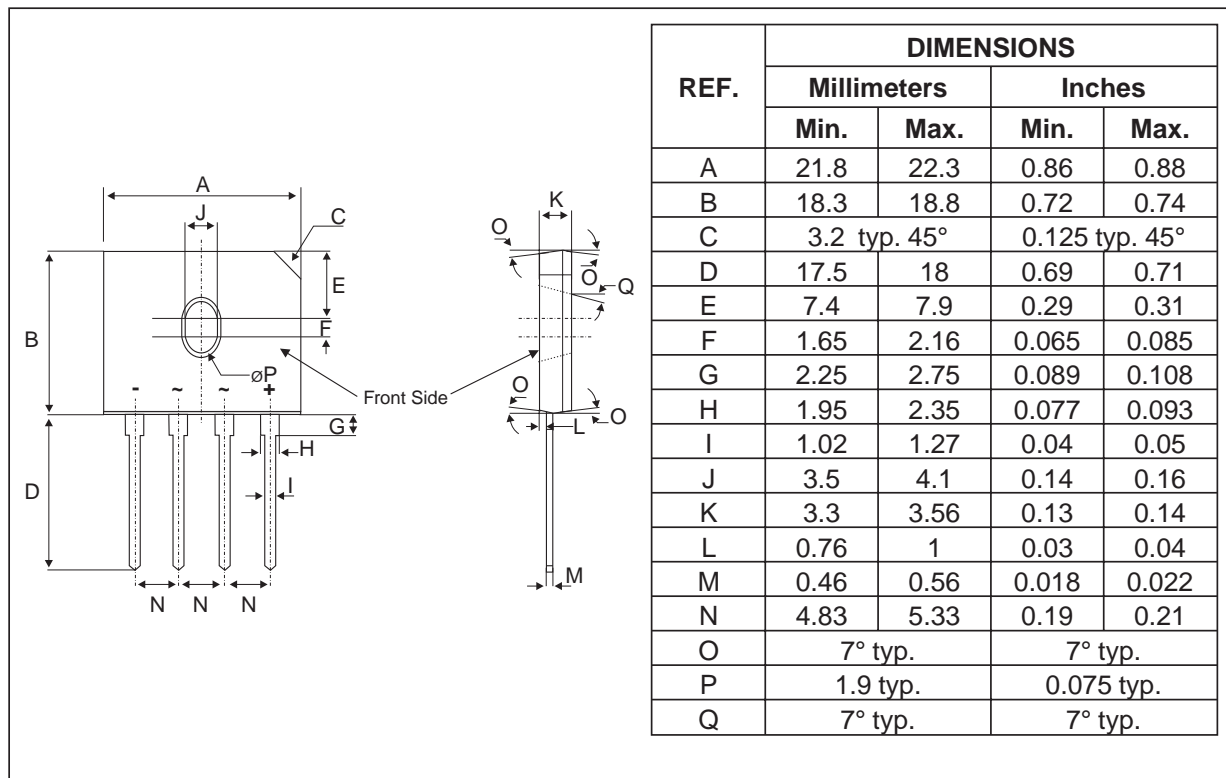


Fig. 9: Surge peak forward current versus number of cycles (per leg).



STBR406/408

PACKAGE MECHANICAL DATA GBU



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

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