



# 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

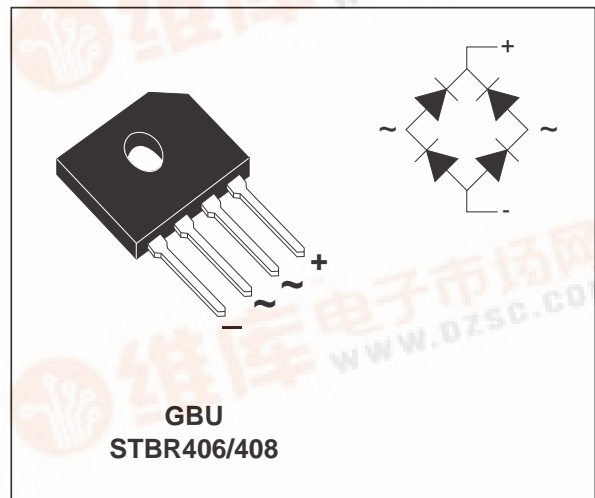
### FEATURES AND BENEFITS

- 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		$\text{A}^2\text{S}$
$T_j$	Maximum operating junction temperature		150		$^\circ\text{C}$
$T_{stg}$	Storage temperature range		- 50 to 150		$^\circ\text{C}$

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## THERMAL PARAMETERS

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

## ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
$V_F$	Forward voltage drop	$I_F = 4\text{A}$			1.05	V
$I_R$	Reverse leakage current per leg	$V_R = V_{RRM}$	$T_j = 25^{\circ}\text{C}$		5	$\mu\text{A}$
			$T_j = 125^{\circ}\text{C}$		50	$\mu\text{A}$
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.

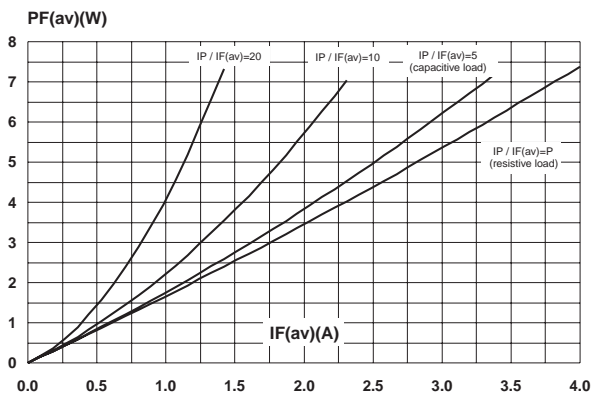


Fig. 2: Average output current versus ambient temperature (resistive load or inductive load)

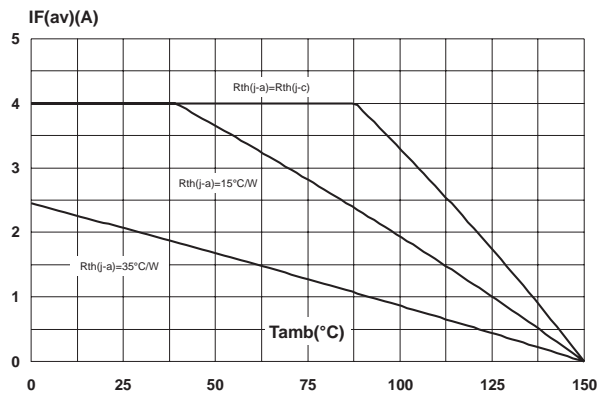


Fig. 3: Variation of thermal impedance junction to ambient versus pulse duration (printed circuit board epoxy FR4).

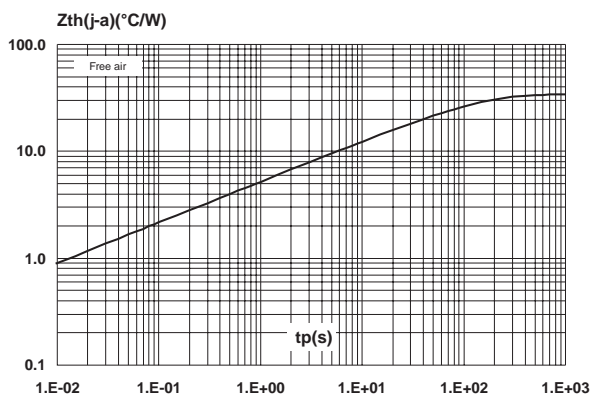
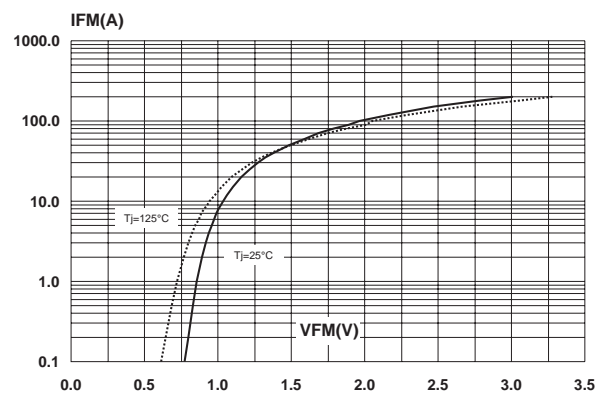
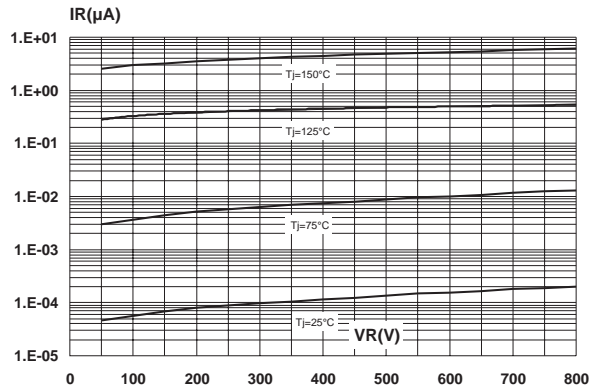


Fig. 4: Forward voltage drop versus forward current (typical values, per leg).

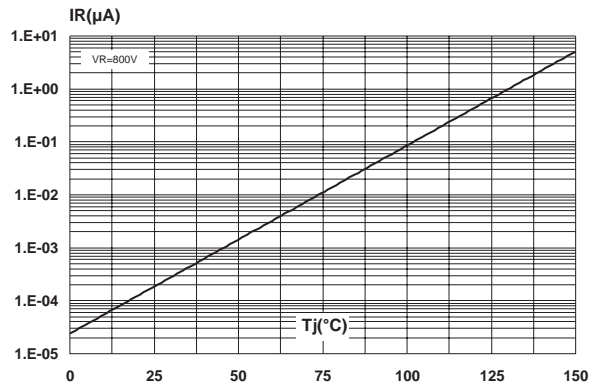


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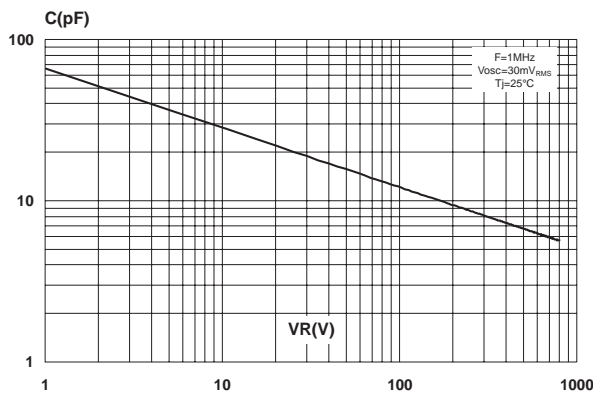
**Fig. 5:** Reverse leakage current versus reverse voltage applied (typical values, per leg).



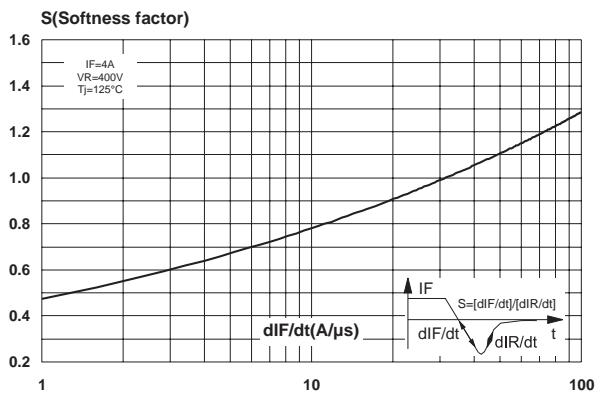
**Fig. 6:** Reverse leakage current versus junction temperature (typical values).



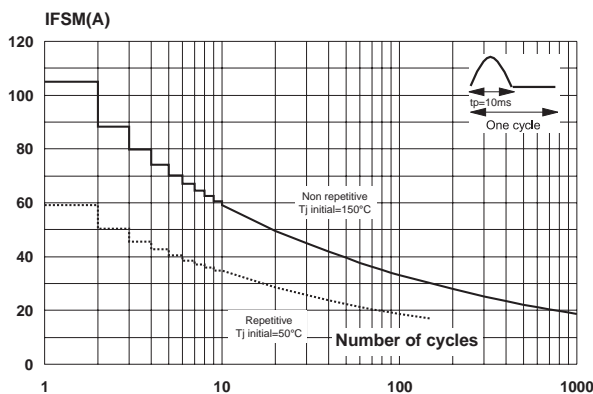
**Fig. 7:** Junction capacitance versus reverse voltage applied (typical values).



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

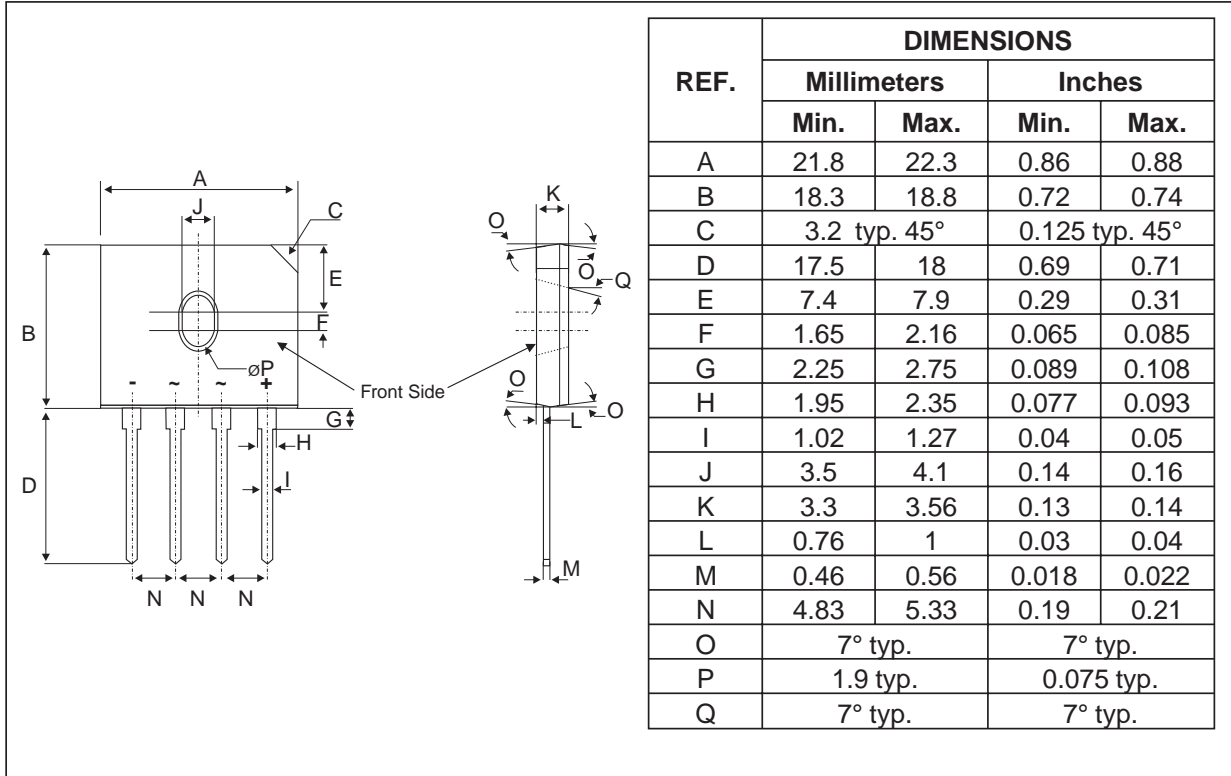


**Fig. 9:** Surge peak forward current versus number of cycles (per leg).



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## 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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