

# STSBF302 thru STSBF307

low Profile Surface Mount Single Phase Fast Bridge Rectifiers

Reverse Voltage 100 to1000V Forward Current 3.0A

## FEATURES

- \* Fast switching
- \* Low forward voltage drop
- \* Low leakage current
- \* Ideal for automated placement
- \* Glass passivated standard bridge rectifiers
- \* Moisture sensitivity: level 1
- \* Low profile, Typical Height 1.4mm
- \* High temperature soldering guaranteed:  
260°C/10 seconds
- \* Weight: 0.195g



## Typical Applications

For use of general purpose AC to DC bridge rectification in power supply, charger, office appliance, home appliance and telecom device

We declare that the material of product is Halogen free (green epoxy compound)

## 1. Maximum Ratings at 25°C unless otherwise noted

Parameter Symbol	symbol	STSBF302	STSBF303	STSBF304	STSBF305	STSBF306	STSBF307	Unit
device marking code		STSBF302	STSBF303	STSBF304	STSBF305	STSBF306	STSBF307	
Maximum repetitive peak reverse voltage	$V_{RRM}$	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	70	140	280	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	100	200	400	600	800	1000	V
Maximum average forward rectified current	$I_F(AV)$	3.0						A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	110						A
Max reverse recovery time (Note 1)	$T_{rr}$	250						ns
Rating for fusing ( $t < 8.3ms$ )	$I^2t$	50						A <sup>2</sup> sec
Typical thermal resistance (Note 2)	$R_{\theta JC}$	15						°C/W
	$R_{\theta JA}$	75						
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150						°C

## Electrical Characteristics at 25°C unless otherwise noted

Parameter Symbol	symbol	STSBF302	STSBF303	STSBF304	STSBF305	STSBF306	STSBF307	Unit
Maximum Instantaneous Forward Voltage ( $I_F = 1.5Amps, T_J = 25^\circ C$ )	$V_F$	1.30						V
Maximum DC reverse current at rated DC blocking voltage $T_A = 25^\circ C$ $T_A = 125^\circ C$	$I_R$	5						$\mu A$
		500						
Typical junction capacitance at 4.0V, 1MHz	$C_J$	32						PF

### NOTES:

1.  $I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A$
2.  $16.0mm^2$  (.013mm thick) land areas

# STSBF302 thru STSBF307

## 2.Ratings and Characteristic Curves ( TA = 25°C unless otherwise noted )

Fig. 1 - Forward Current Derating Curve

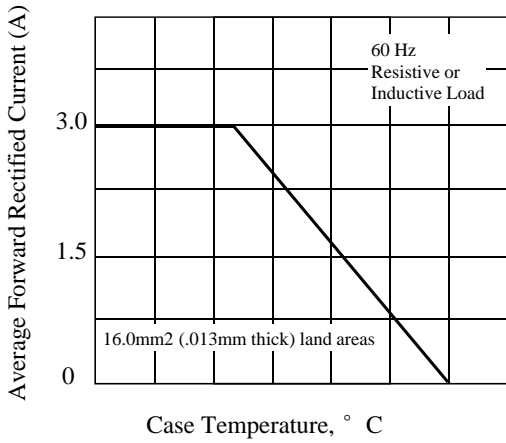


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

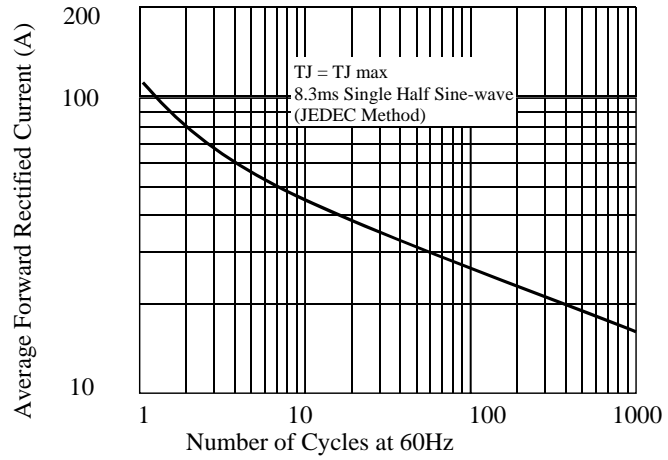


Fig. 3 - Typical Instantaneous Forward Characteristics

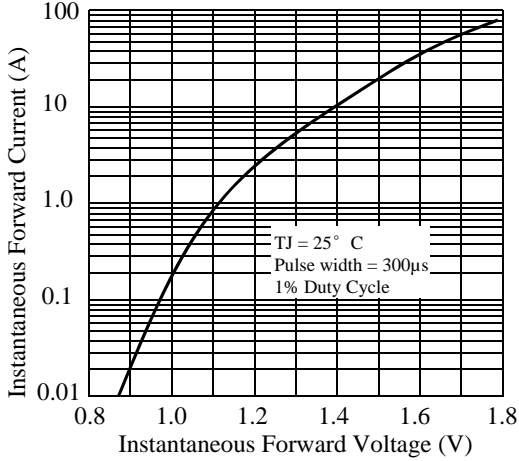


Fig. 4 - Typical Reverse Characteristics

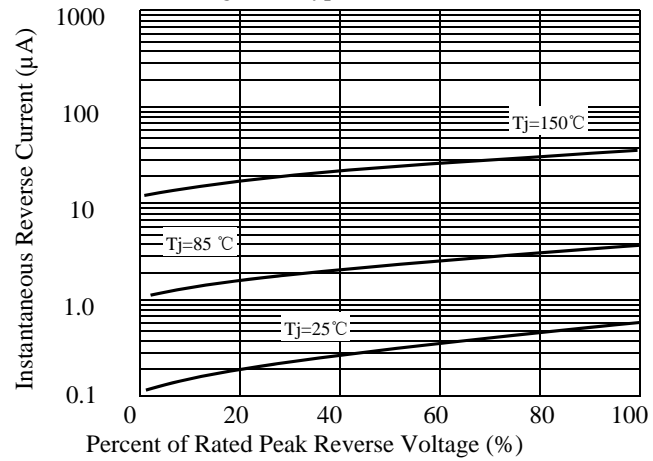


Fig. 5 - typical transient thermal impedance

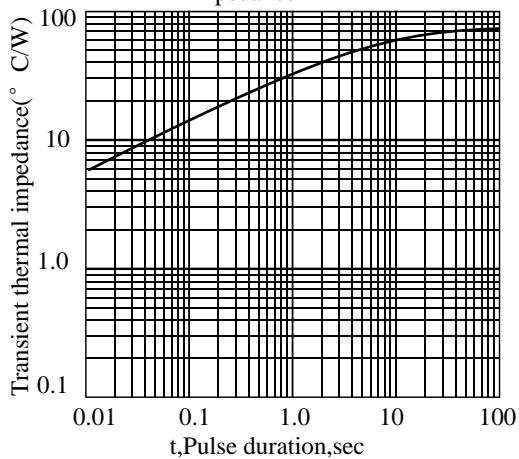
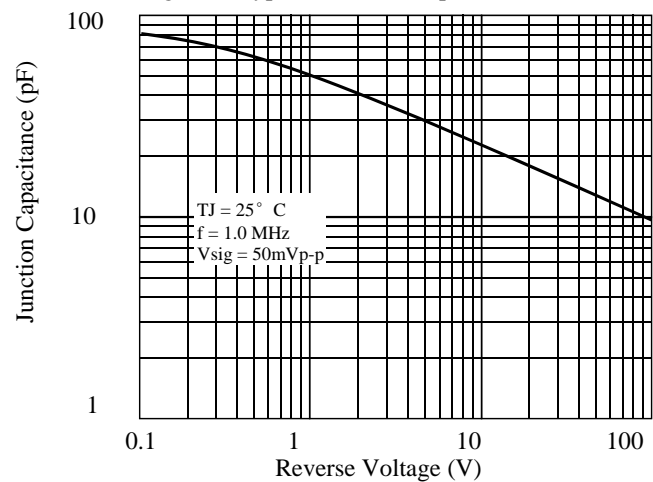


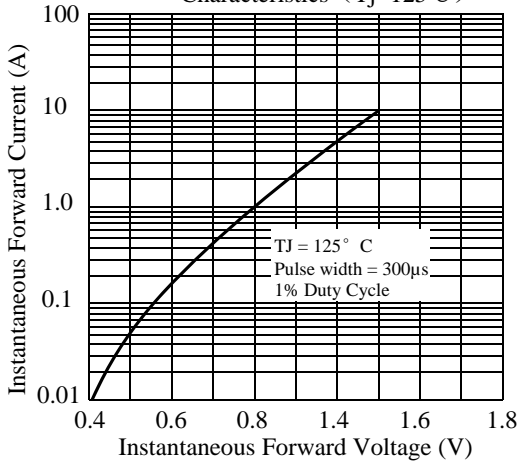
Fig. 6 - Typical Junction Capacitance



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### 2. Ratings and Characteristic Curves ( TA = 25°C unless otherwise noted )

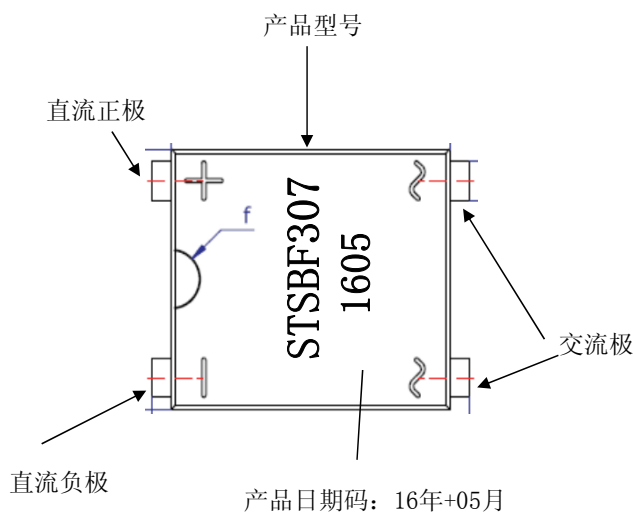
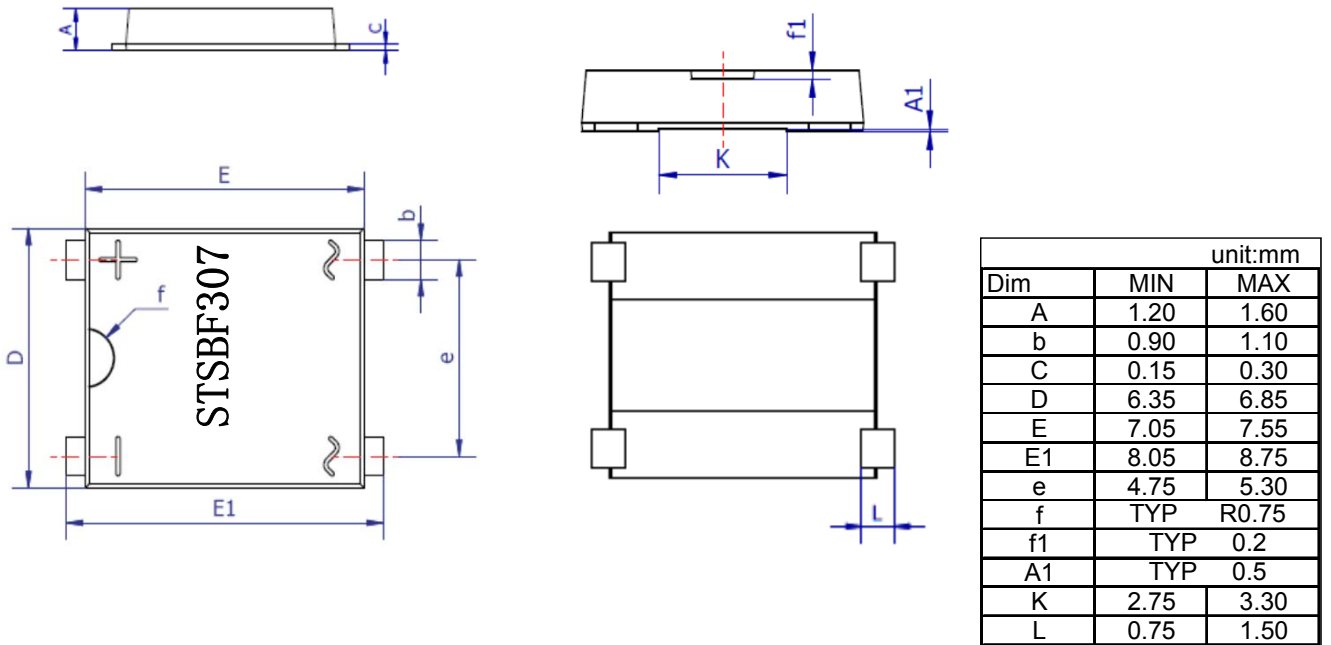
Fig 7. - Typical Instantaneous Forward Characteristics (Tj=125°C)



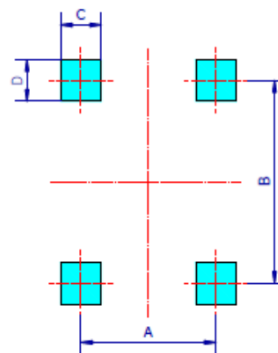
## STSBF302 thru STSBF307

### 3. dimension:

### STSB



### Mounting PAD layout



产品型号说明: ST--小型薄形管体; S---贴片;  
B---桥; F---快恢复 30--IF=3.0A;7--VR=1000V;

Dim	MIN	MAX
A	4.75	5.30
B	7.15	7.65
C	1.50	2.50
D	1.50	2.50

## STSBF302 thru STSBF307

### 4、版式次更新记录

版次	更新记录	更新作者	更新日期
1	第一版	谭志伟	2016.07.20
2	增加Tj 125℃ VF曲线	谭志伟	2018.06.08