

## 8A, 600V - 1000V Standard Bridge Rectifier

### FEATURES

- Glass passivated chip junction
- Ideal for automated placement
- UL Recognized File # E-326854
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

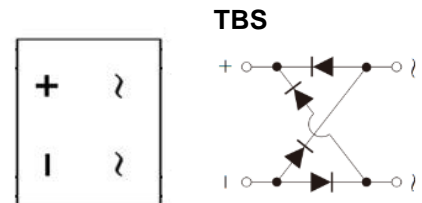
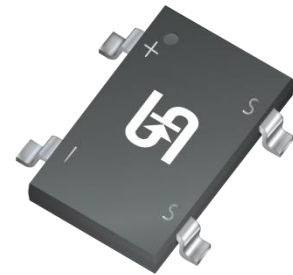
### APPLICATIONS

- Switching mode power supply
- AC to DC

### MECHANICAL DATA

- Case: TBS
- Molding compound meets UL 94V-0 flammability rating
- Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1 whisker test
- Polarity: As marked
- Weight: 0.380g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_F$	8	A
$V_{RRM}$	600 - 1000	V
$I_{FSM}$	200	A
$T_{J\ MAX}$	150	°C
Package	TBS	
Configuration	Quad	



ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	TBS 806	TBS 808	TBS 810	UNIT
Marking code on the device		TBS806	TBS808	TBS810	
Repetitive peak reverse voltage	$V_{RRM}$	600	800	1000	V
Reverse voltage, total rms value	$V_{R(RMS)}$	420	560	700	V
Forward current	$I_F$	8			A
Surge peak forward current single half sine-wave superimposed on rated load per diode	$t = 8.3\text{ms}$	$I_{FSM}$ 200			A
	$t = 1.0\text{ms}$	475			A
Rating of fusing ( $t < 8.3\text{ms}$ )	$I^2t$	166			$\text{A}^2\text{s}$
Junction temperature	$T_J$	-55 to +150			°C
Storage temperature	$T_{STG}$	-55 to +150			°C

**THERMAL PERFORMANCE**

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	$R_{\theta JL}$	13	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	50	°C/W
Junction-to-case thermal resistance	$R_{\theta JC}$	9.2	°C/W

**Thermal Performance Note:** Units mounted on PCB (16mm x 16mm Cu pad test board)

**ELECTRICAL SPECIFICATIONS** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode <sup>(1)</sup>	$I_F = 4\text{A}, T_J = 25^\circ\text{C}$	$V_F$	0.90	-	V
	$I_F = 8\text{A}, T_J = 25^\circ\text{C}$		0.97	1.05	V
	$I_F = 4\text{A}, T_J = 125^\circ\text{C}$		0.81	-	V
	$I_F = 8\text{A}, T_J = 125^\circ\text{C}$		0.89	-	V
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	$T_J = 25^\circ\text{C}$	$I_R$	-	5	$\mu\text{A}$
	$T_J = 125^\circ\text{C}$		-	200	$\mu\text{A}$
Junction capacitance per diode	1MHz, $V_R = 4.0\text{V}$	$C_J$	66	-	pF

**Notes:**

1. Pulse test with  $PW = 0.3\text{ms}$
2. Pulse test with  $PW = 30\text{ms}$

**ORDERING INFORMATION**

ORDERING CODE <sup>(1)</sup>	PACKAGE	PACKING
TBS8x	TBS	1,800 / Tape & Reel

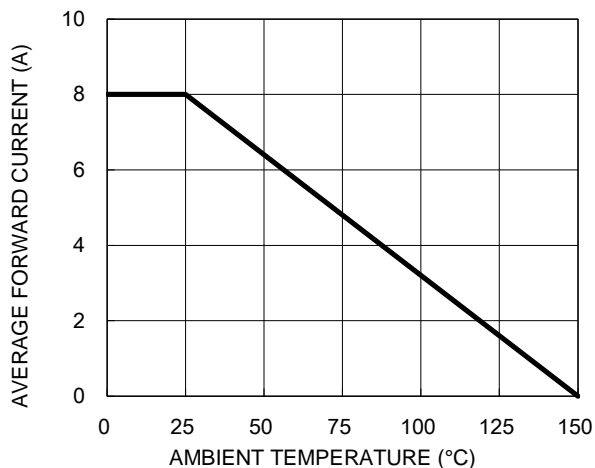
**Notes:**

1. "x" defines voltage from 600V(TBS806) to 1000V(TBS810)

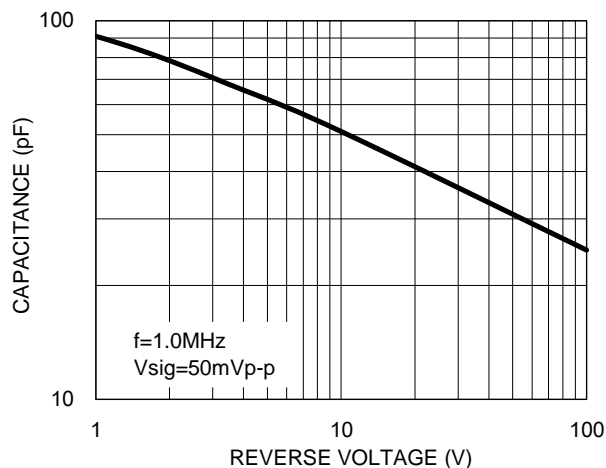
## CHARACTERISTICS CURVES

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

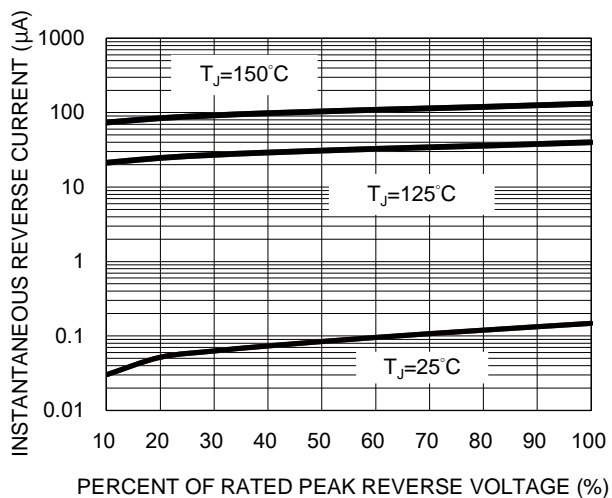
**Fig.1 Forward Current Derating Curve**



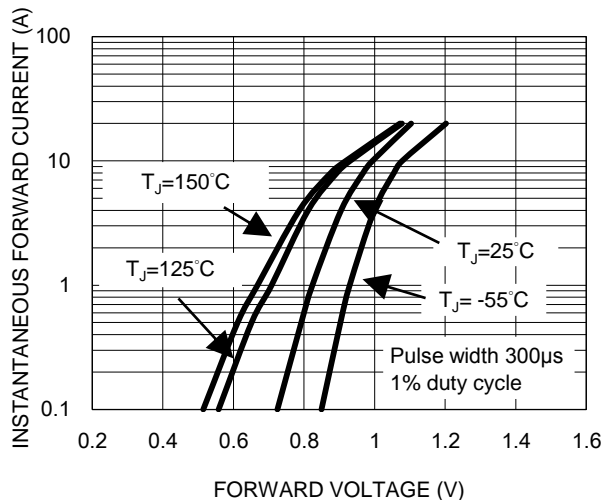
**Fig.2 Typical Junction Capacitance**



**Fig.3 Typical Reverse Characteristics**

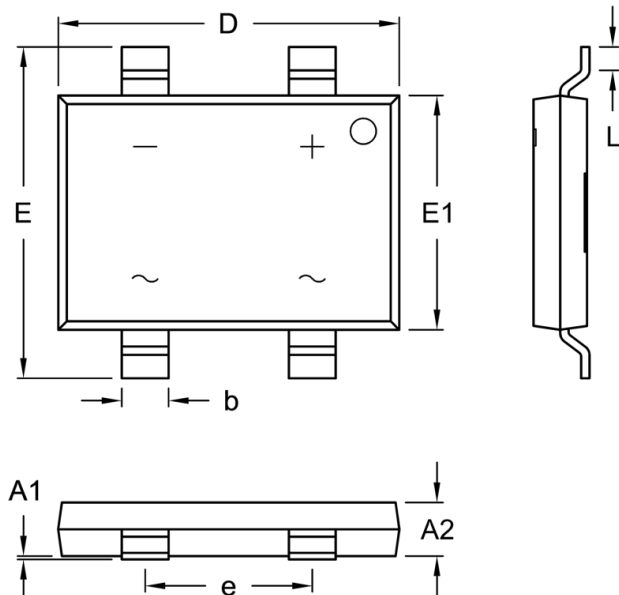


**Fig.4 Typical Forward Characteristics**



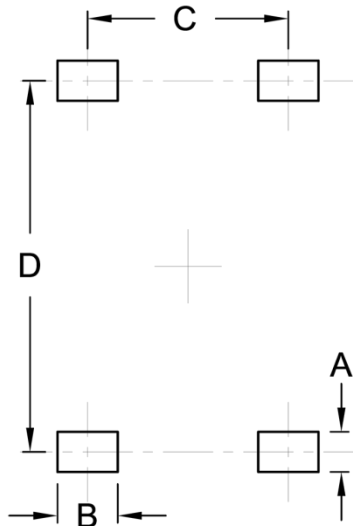
## PACKAGE OUTLINE DIMENSIONS

**TBS**



DIM	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A1	0.00	0.15	0.000	0.006
A2	1.40	1.80	0.055	0.071
b	1.30	1.50	0.051	0.059
D	10.00	10.40	0.394	0.409
E	9.70	10.10	0.382	0.398
E1	6.80	7.20	0.268	0.283
e	4.90	5.10	0.193	0.201
L	0.50	1.10	0.020	0.043

## SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	1.00	0.039
B	1.50	0.059
C	5.00	0.197
D	9.25	0.364

## MARKING DIAGRAM



P/N = Marking Code  
YW = Date Code  
F = Factory Code

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