4A, 600V - 1000V Glass Passivated Bridge Rectifier

FEATURES

- Glass passivated junction
- Ideal for automated placement
- UL Recognized File # E-326854
- Moisture sensitivity level: level 1, per J-STD-020
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- TV
- Monitor

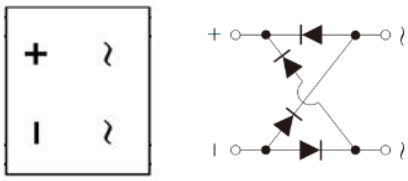
MECHANICAL DATA

- 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: 0.22g (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
$I_{F(AV)}$	4.0	A
V_{RRM}	600 - 1000	V
I_{FSM}	110	A
$T_{J\ MAX}$	150	°C
Package	TBS	
Configuration	Quad	

Pb-Free RoHS COMPLIANT HALOGEN FREE

TBS



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)						
PARAMETER		**SYMBOL**	**TBS 406**	**TBS 408**	**TBS 410**	**UNIT**
Marking code on the device			TBS406	TBS408	TBS410	
Repetitive peak reverse voltage		V_{RRM}	600	800	1000	V
Reverse voltage, total rms value		$V_{R(RMS)}$	420	560	700	V
Forward current		$I_{F(AV)}$	4.0			A
Surge peak forward current single half sine-wave superimposed on rated load	8.3 ms at T_A= 25°C	I_{FSM}	110			A
	1.0 ms at T_A= 25°C		340			A
I^2t value (of a surge on-state current) at 8.3ms		I^2t	50			A^2s
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	$R_{\Theta JC}$	13	°C/W

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

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)					
PARAMETER	**CONDITIONS**	**SYMBOL**	**TYP**	**MAX**	**UNIT**
Forward voltage (1)	I_F = 2.0 A, T_J = 25°C	V_F	0.89	-	V
	I_F = 4.0 A, T_J = 25°C		0.95	1	V
	I_F = 2.0 A, T_J = 125°C		0.78	-	V
	I_F = 4.0 A, T_J = 125°C		0.84	0.96	V
Reverse current @ rated V_R (2)	T_J = 25°C	I_R	-	2	μA
	T_J = 125°C		-	200	μA
Junction capacitance	1 MHz, V_R=4.0V	C_J	38	-	pF

Notes:

1. Pulse test with PW=0.3 ms
2. Pulse test with PW=30 ms

ORDERING INFORMATION		
ORDERING CODE	**PACKAGE**	**PACKING**
TBS406 M1G	TBS	1,800 / 13" Plastic Reel
TBS408 M1G	TBS	1,800 / 13" Plastic Reel
TBS410 M1G	TBS	1,800 / 13" Plastic Reel

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

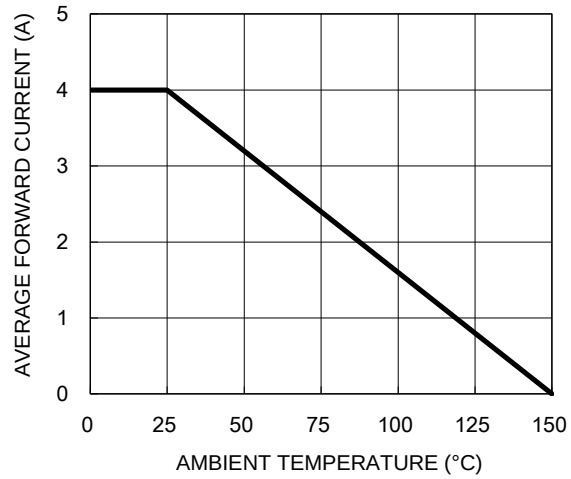


Fig.2 Typical Junction Capacitance

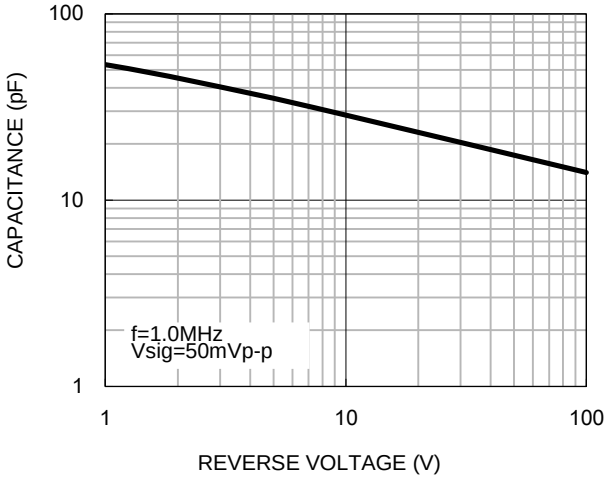


Fig.3 Typical Reverse Characteristics

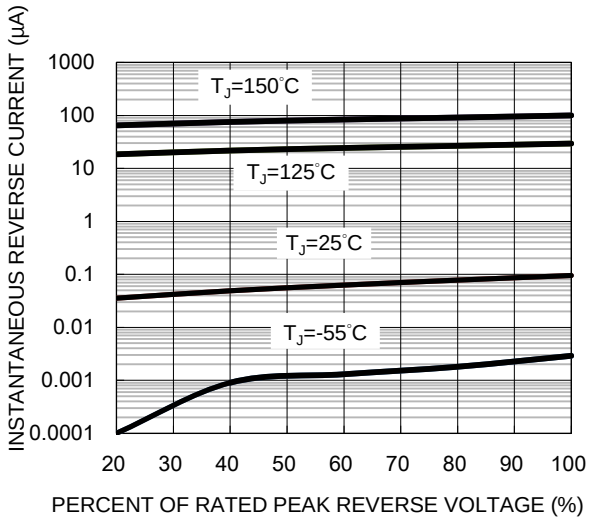
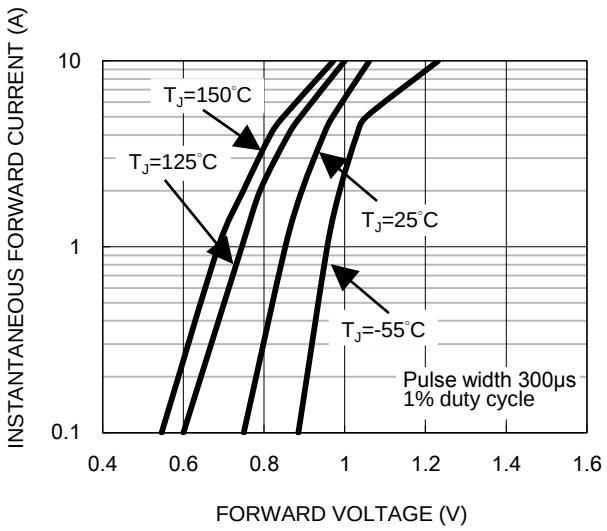
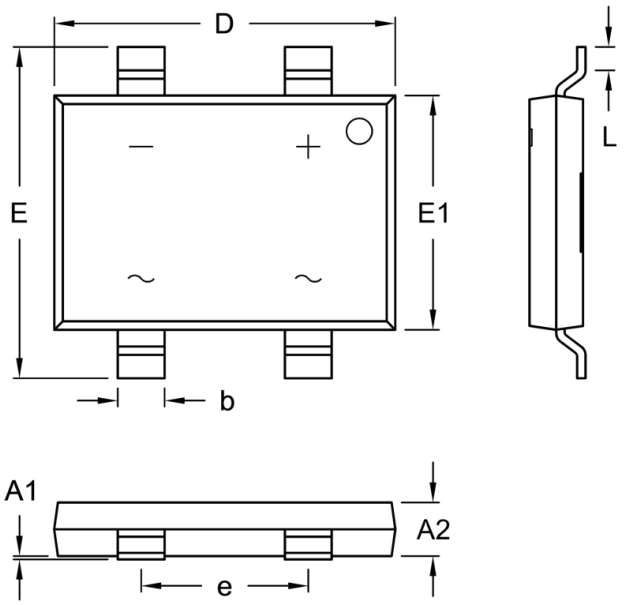


Fig.4 Typical Forward Characteristics

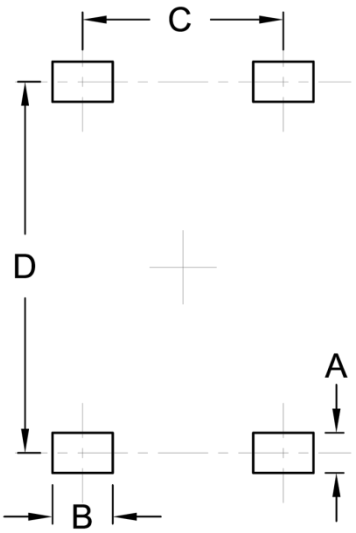


PACKAGE OUTLINE DIMENSIONS



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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