3A, 400V - 1000V Glass Passivated Bridge Rectifier

FEATURES

- Glass passivated junction
- Ideal for automated placement
- Reliable low cost construction utilizing molded plastic technique
- High surge current capability
- UL Recognized File # E-326854
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

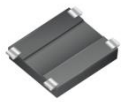
KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
$I_{F(AV)}$	3	A
V_{RRM}	400 - 1000	V
I_{FSM}	110	A
$T_{J\ MAX}$	150	°C
Package	YBS	
Configuration	Quad	

APPLICATIONS

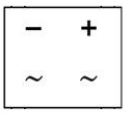
- Switching mode power supply (SMPS)
- Adapters
- TV
- Monitor

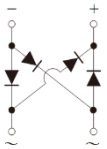
MECHANICAL DATA

- Case: YBS
- Molding compound meets UL 94V-0 flammability rating
- Moisture sensitivity level: level 1, per J-STD-020
- Packing code with suffix "G" means green compound (halogen-free)
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: As marked
- Weight: 0.22g (approximately)



YBS





ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)							
PARAMETER	**SYMBOL**		**YBS 3004G**	**YBS 3005G**	**YBS 3006G**	**YBS 3007G**	**UNIT**
Marking code on the device			YBS 3004G	YBS 3005G	YBS 3006G	YBS 3007G	
Repetitive peak reverse voltage	V_{RRM}		400	600	800	1000	V
Reverse voltage, total rms value	$V_{R(RMS)}$		280	420	560	700	V
Forward current	$I_{F(AV)}$		3				A
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	25°C	110				A
		125°C	88				
Surge peak forward current, 1 ms single half sine-wave superimposed on rated load	I_{FSM}	25°C	220				A
		125°C	175				
I^2t value (of a surge on-state current)(1)	I^2t		50				A^2s
Junction temperature	T_J		-55 to +150				°C
Storage temperature	T_{STG}		-55 to +150				°C

Note:

1. Pulse test with PW=8.3 ms single half sine-wave

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	$R_{\Theta JL}$	22	°C/W
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	61	°C/W
Junction-to-case thermal resistance	$R_{\Theta JC}$	9	°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 per diode (1)	I_F = 1.5A, T_J = 25°C	V_F	0.89	1.02	V
	I_F = 3.0A, T_J = 25°C		0.93	1.10	V
	I_F = 1.5A, T_J = 125°C		0.76	0.90	V
	I_F = 3.0A, T_J = 125°C		0.82	1.00	V
Reverse current @ rated V_R per diode (2)	T_J = 25°C	I_R	-	5	μA
	T_J = 125°C		-	100	μA
Junction capacitance	1 MHz, V_R=4.0V	C_J	33	-	pF

Notes:

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

ORDERING INFORMATION

PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
YBS30xxG (Note 1, 2)	RA	G	YBS	3,000 / 13" Plastic reel

Notes:

1. "xx" defines voltage from 400V (YBS3004G) to 1000V (YBS3007G)
2. Whole series with green compound (halogen-free)

EXAMPLE

EXAMPLE P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
YBS3007G RAG	YBS3007G	RA	G	Green compound

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig1. Forward Current Derating Curve

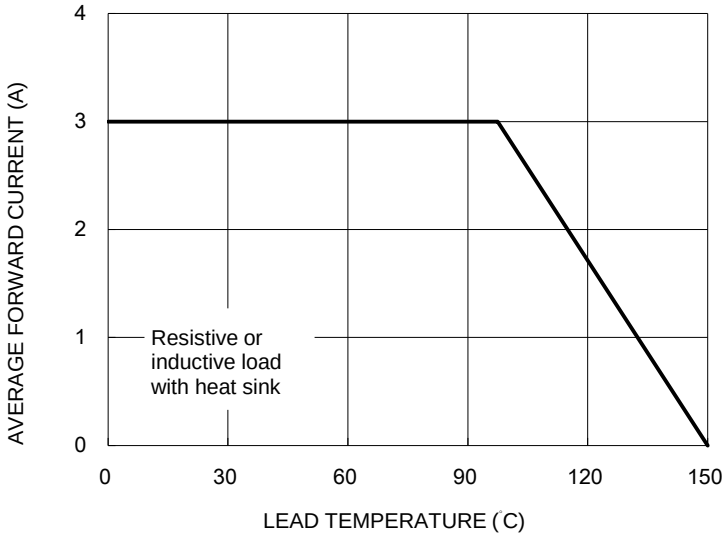


Fig2. Typical Junction Capacitance

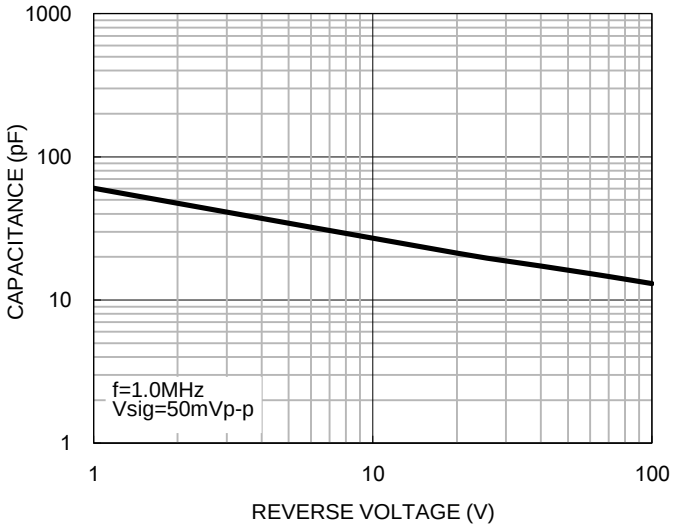


Fig3. Typical Reverse Characteristics

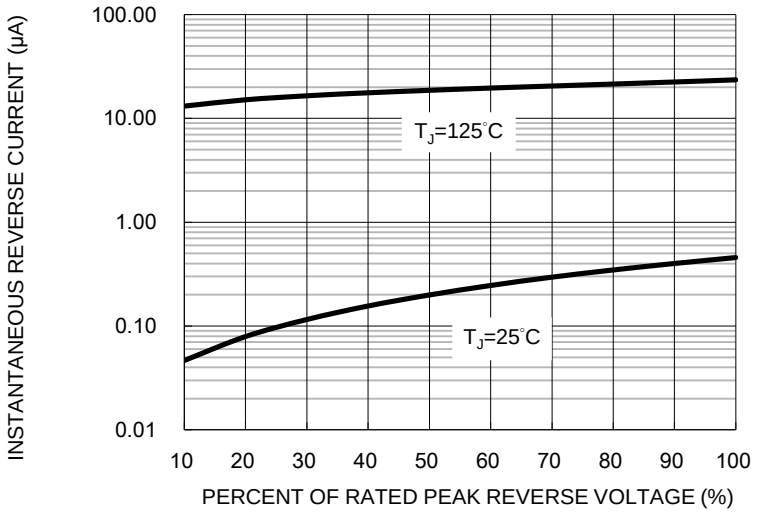
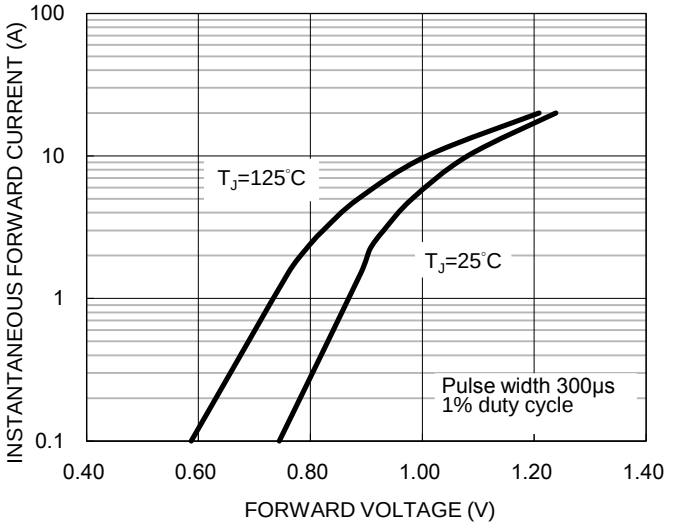
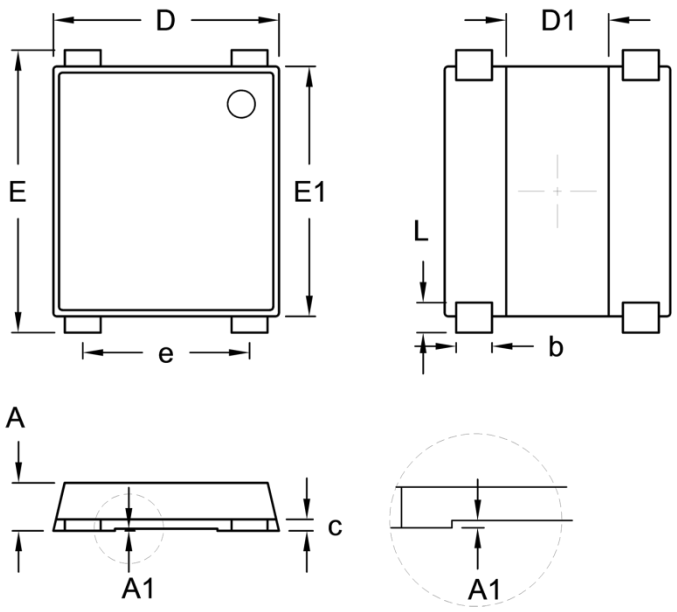


Fig4. Typical Forward Characteristics



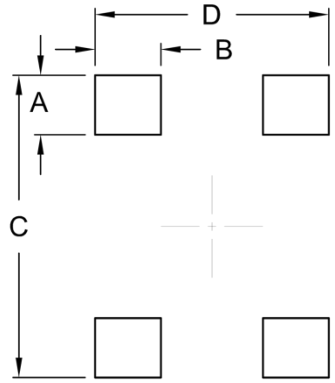
PACKAGE OUTLINE DIMENSIONS (Unit: Millimeters)

YBS



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	1.30	1.50	0.051	0.059
A1	0.04	0.08	0.002	0.003
b	0.95	1.15	0.037	0.045
c	0.27	0.40	0.011	0.016
D	6.50	6.70	0.256	0.264
D1	2.90	3.10	0.114	0.122
E	7.90	8.60	0.311	0.339
E1	7.20	7.40	0.283	0.291
e	5.00	5.20	0.197	0.205
L	0.70	1.05	0.028	0.041

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	1.80	0.070
B	2.00	0.078
C	9.15	0.360
D	7.10	0.279

MARKING DIAGRAM

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

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