

4A, 50V - 1000V Standard Bridge Rectifier

FEATURES

- Glass passivated chip junction
- Ideal for printed circuit board
- Reliable low cost construction
- UL Recognized File # E-326243
- RoHS Compliant

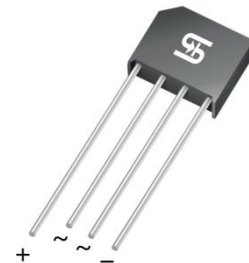
APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Lighting application

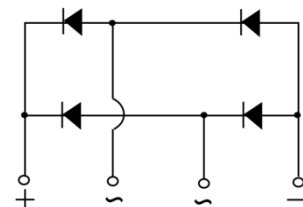
MECHANICAL DATA

- Case: KBL
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: As marked
- Weight: 5.60g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	4	A
V_{RRM}	50 - 1000	V
I_{FSM}	150	A
$T_{J\ MAX}$	150	°C
Package	KBL	
Configuration	Quad	



KBL



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

PARAMETER	SYMBOL	KBL 401G	KBL 402G	KBL 403G	KBL 404G	KBL 405G	KBL 406G	KBL 407G	UNIT
Marking code on the device		KBL 401G	KBL 402G	KBL 403G	KBL 404G	KBL 405G	KBL 406G	KBL 407G	
Repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Reverse voltage, total rms value	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Forward current	I_F	4							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	150							A
Rating for fusing ($t < 8.3\text{ms}$)	I^2t	93							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	$R_{\theta JL}$	2.4	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	19	°C/W

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode ⁽¹⁾	$I_F = 2\text{A}, T_J = 25^\circ\text{C}$	V_F	-	1.0	V
	$I_F = 4\text{A}, T_J = 25^\circ\text{C}$		-	1.1	V
Reverse current @ rated V_R per diode ⁽²⁾	$T_J = 25^\circ\text{C}$	I_R	-	10	μA
	$T_J = 125^\circ\text{C}$		-	500	μA

Notes:

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

ORDERING INFORMATION

ORDERING CODE ⁽¹⁾	PACKAGE	PACKING
KBL40xG	KBL	100 / Tray

Notes:

1. "x" defines voltage from 50V(KBL401G) to 1000V(KBL407G)

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

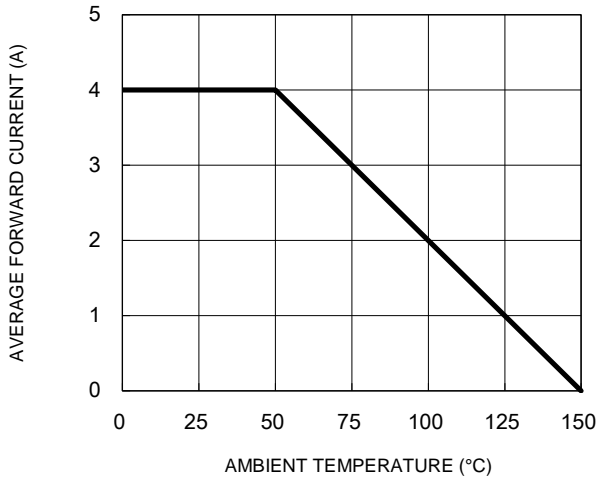


Fig.2 Typical Junction Capacitance

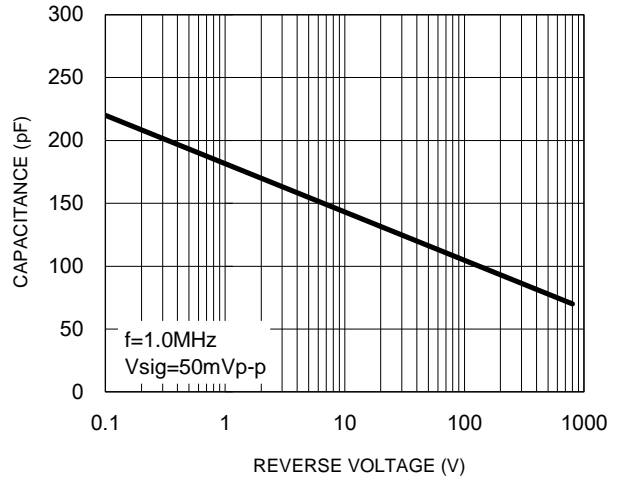


Fig.3 Typical Reverse Characteristics

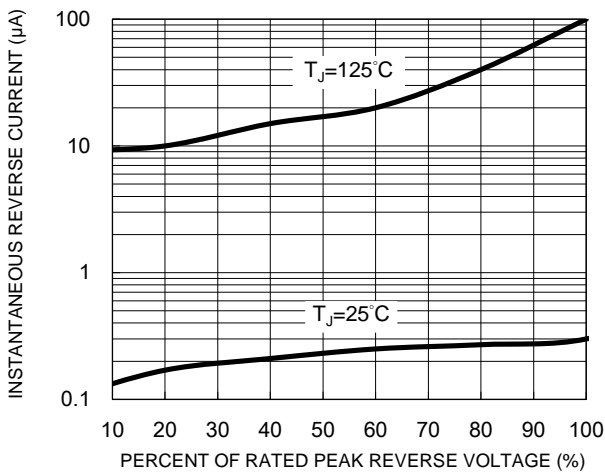


Fig.4 Typical Forward Characteristics

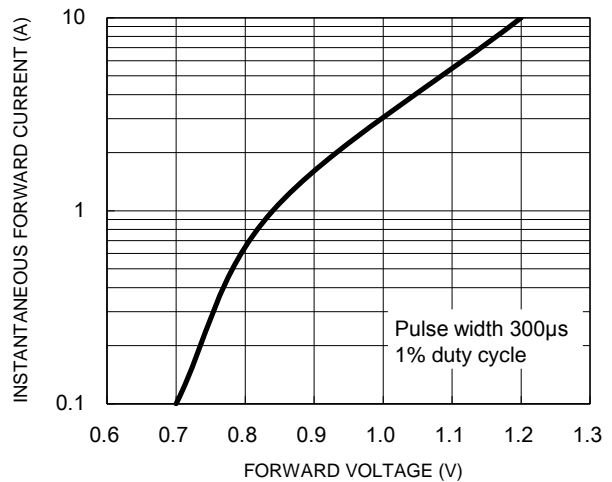
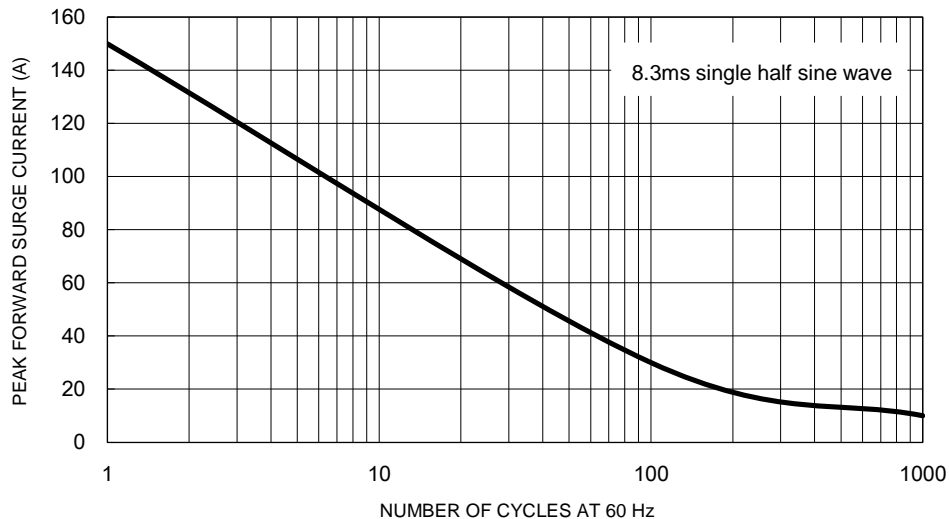
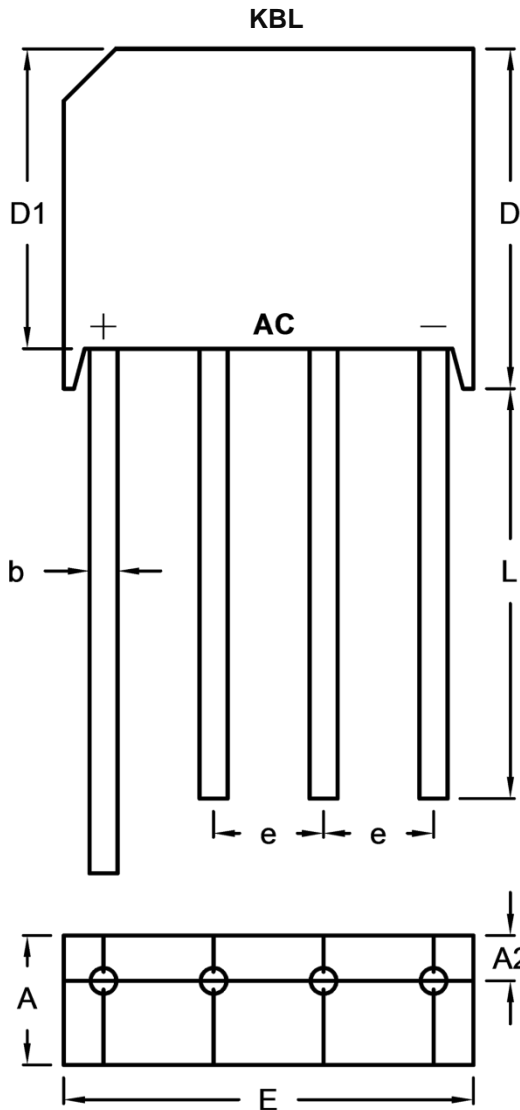


Fig.5 Maximum Non-Repetitive Forward Surge Current



PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	5.50	6.50	0.217	0.256
A2	2.10 (TYP)		0.083 (TYP)	
b	1.20	1.40	0.047	0.055
D	15.20	16.30	0.598	0.642
D1	13.70	14.10	0.539	0.555
E	18.50	19.50	0.728	0.768
e	4.60	5.60	0.181	0.220
L	19.00	-	0.748	-

MARKING DIAGRAM



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

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