

## 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

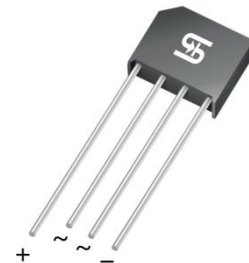
### APPLICATIONS

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

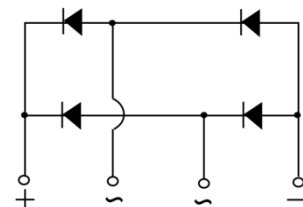
### MECHANICAL DATA

- 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 <sup>2</sup> s
Junction temperature	$T_J$	- 55 to +150							°C
Storage temperature	$T_{STG}$	- 55 to +150							°C

<b>THERMAL PERFORMANCE</b>			
<b>PARAMETER</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>UNIT</b>
Junction-to-lead thermal resistance	$R_{\theta JL}$	2.4	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	19	°C/W

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)					
<b>PARAMETER</b>	<b>CONDITIONS</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>MAX</b>	<b>UNIT</b>
Forward voltage per diode <sup>(1)</sup>	$I_F = 2\text{A}, T_J = 25^\circ\text{C}$	$V_F$	-	1.0	V
	$I_F = 4\text{A}, T_J = 25^\circ\text{C}$		-	1.1	V
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	$T_J = 25^\circ\text{C}$	$I_R$	-	10	$\mu\text{A}$
	$T_J = 125^\circ\text{C}$		-	500	$\mu\text{A}$

**Notes:**

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

<b>ORDERING INFORMATION</b>		
<b>ORDERING CODE<sup>(1)</sup></b>	<b>PACKAGE</b>	<b>PACKING</b>
KBL40xG	KBL	100 / Tray

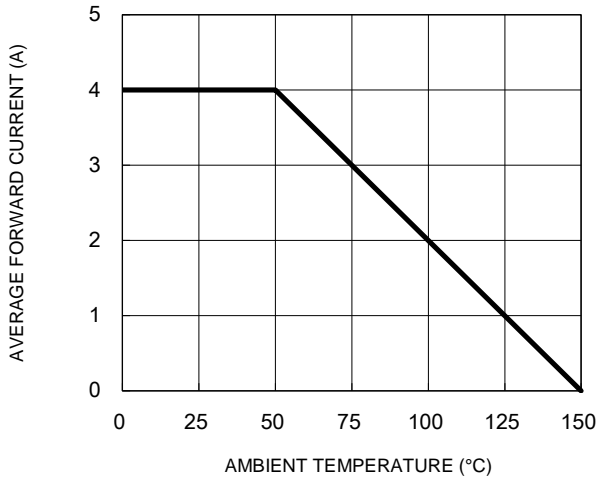
**Notes:**

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

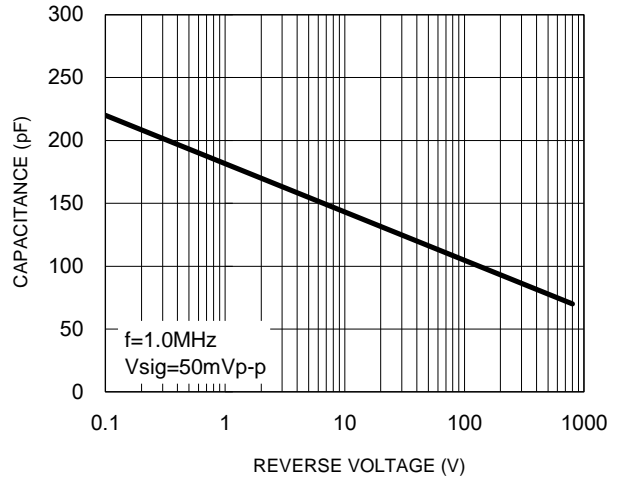
**CHARACTERISTICS CURVES**

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

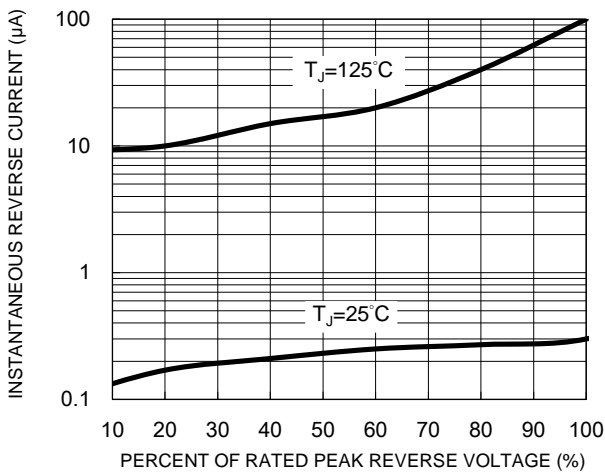
**Fig.1 Forward Current Derating Curve**



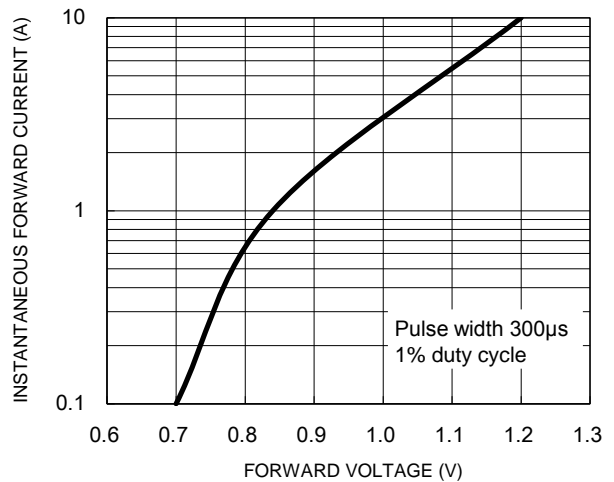
**Fig.2 Typical Junction Capacitance**



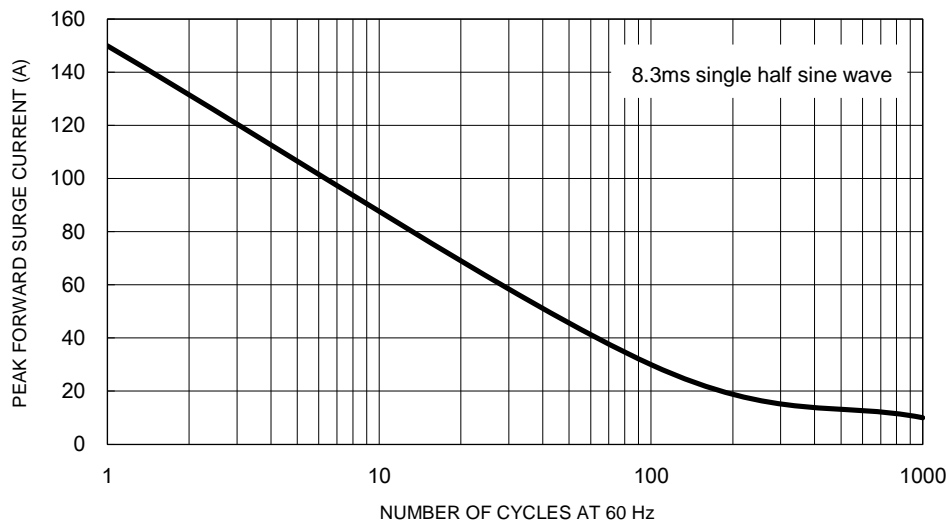
**Fig.3 Typical Reverse Characteristics**



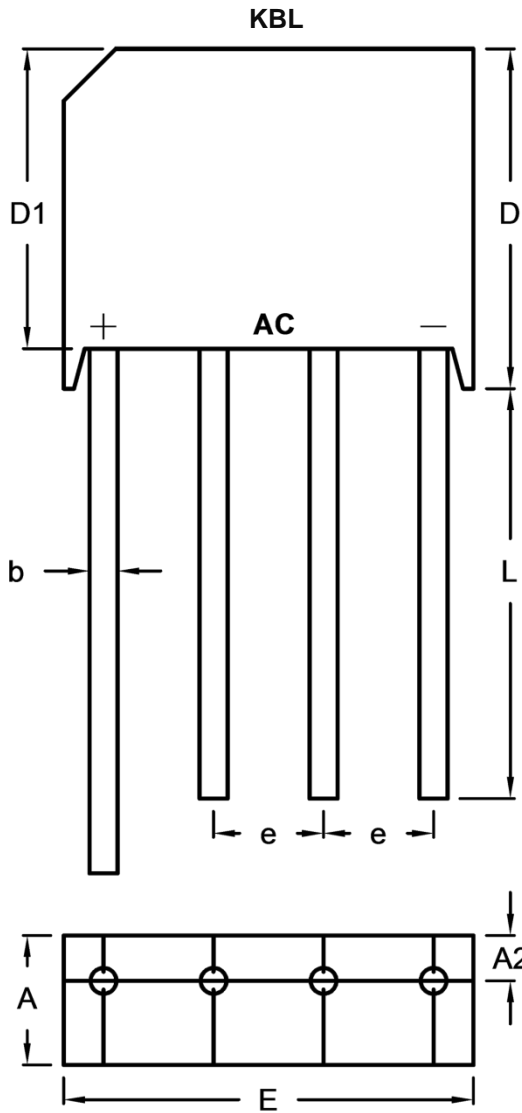
**Fig.4 Typical Forward Characteristics**



**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