

## 10A, 600V - 1000V Glass Passivated Single-Phase Bridge Rectifier

### FEATURES

- AEC-Q101 qualified available
- Thin Single-in-line low profile package ideal for compact required circuit
- Glass passivated chip junction
- High surge current capability
- UL Recognized File # E-326243
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

### APPLICATIONS

- Switching mode power supply (SMPS)
- AC to DC

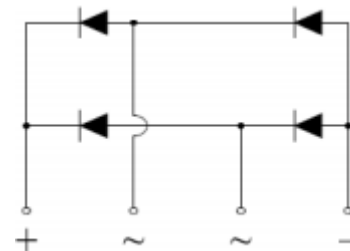
### MECHANICAL DATA

- Case: KBJL
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: As marked
- Mounting torque: 0.56N·m max. (5 in-lbs. max.)
- Weight: 2.50g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_F$	10	A
$V_{RRM}$	600 - 1000	V
$I_{FSM}$	180	A
$T_{J\ MAX}$	150	°C
Package	KBJL	
Configuration	Quad dice	



KBJL



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

PARAMETER	SYMBOL	TS10KL60	TS10KL80	TS10KL100	UNIT
Repetitive peak reverse voltage	$V_{RRM}$	600	800	1000	V
Reverse voltage, total rms value	$V_{R(RMS)}$	420	560	700	V
DC blocking voltage	$V_{DC}$	600	800	1000	V
Forward current	$I_F$	10			A
Surge peak forward current, single half sine-wave superimposed on rated load	$I_{FSM}$	180			A
Rating of fusing ( $t < 8.3\text{ms}$ )	$I^2t$	134			$\text{A}^2\text{s}$
Junction temperature	$T_J$	- 55 to +150			°C
Storage temperature	$T_{STG}$	- 55 to +150			°C

**THERMAL PERFORMANCE**

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-case thermal resistance	$R_{\theta JC}$	1.5	°C/W

**Thermal Performance Note:** Units mounted on 4" x 6" x 0.25" Al -plate

**ELECTRICAL SPECIFICATIONS** (TA = 25°C unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode <sup>(1)</sup>	$I_F = 5A, T_J = 25^\circ C$	$V_F$	-	1.0	V
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	$T_J = 25^\circ C$	$I_R$	-	5	$\mu A$
	$T_J = 125^\circ C$		-	150	$\mu A$

**Notes:**

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

**ORDERING INFORMATION**

ORDERING CODE <sup>(1)(2)(3)</sup>	PACKAGE	PACKING
TS10KLxxHD3G	KBJL	20 / Tube
TS10KLxxHD3	KBJL	20 / Tube
TS10KLxx D3G	KBJL	20 / Tube
TS10KLxx D3	KBJL	20 / Tube

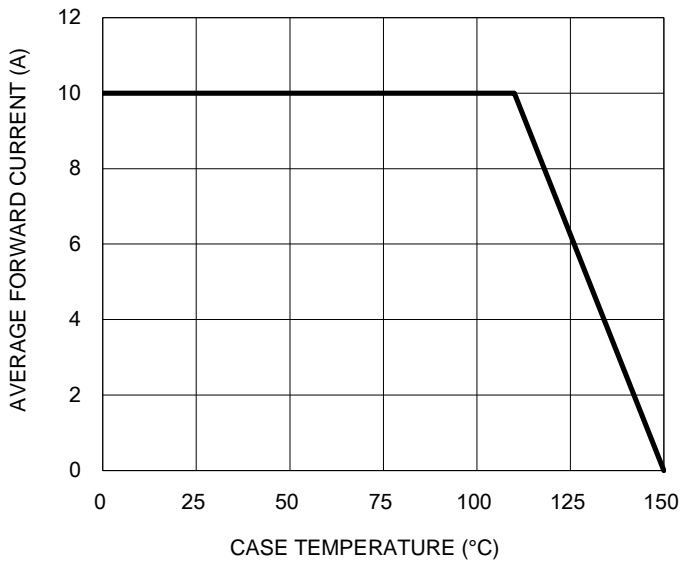
**Notes:**

1. "xx" defines voltage from 600V(TS10KL60) to 1000V(TS10KL100)
2. "H" means AEC-Q101 qualified
3. "G" means green compound (Halogen-free)

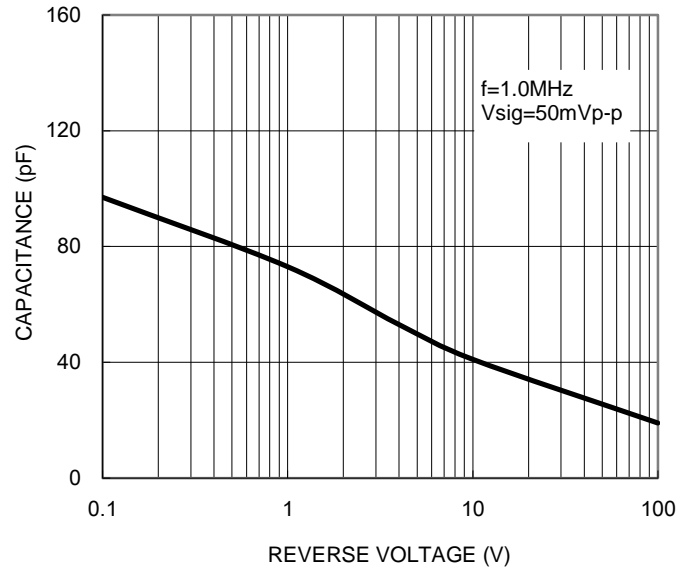
**CHARACTERISTICS CURVES**

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

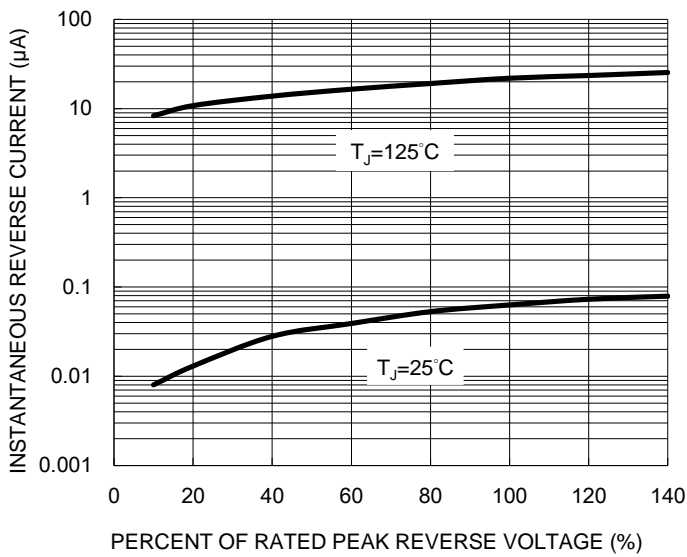
**Fig.1 Forward Current Derating Curve**



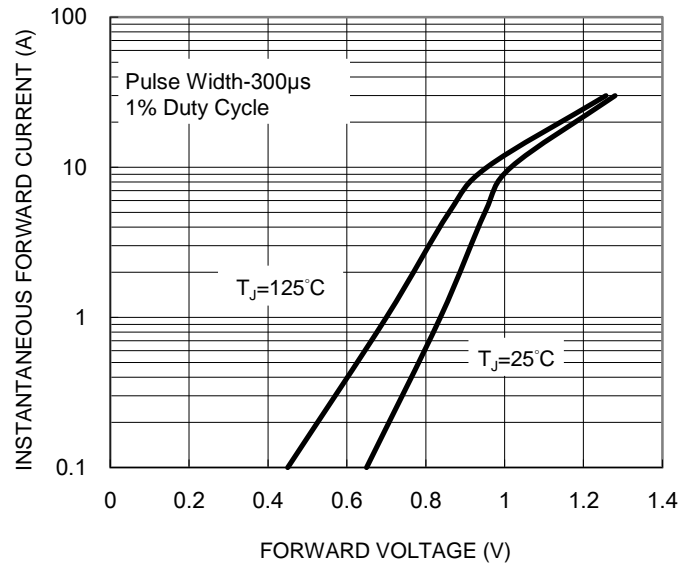
**Fig.2 Typical Junction Capacitance**



**Fig.3 Typical Reverse Characteristics**



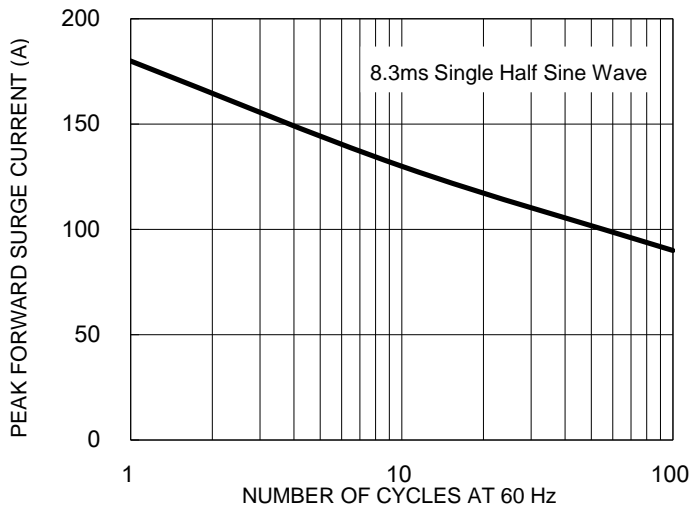
**Fig.4 Typical Forward Characteristics**



**CHARACTERISTICS CURVES**

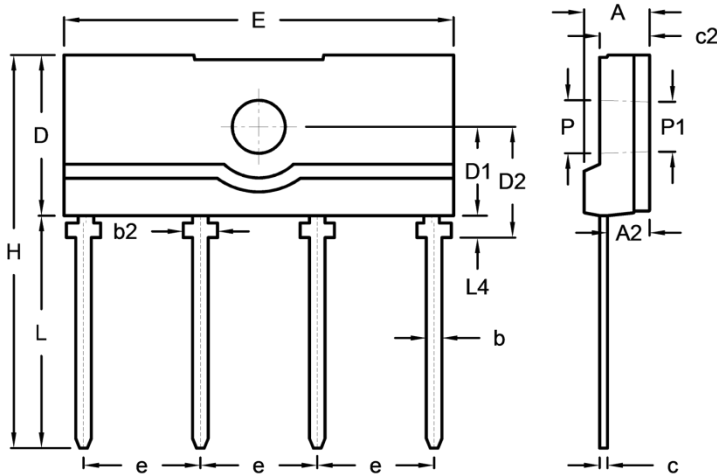
(T<sub>A</sub> = 25°C unless otherwise noted)

**Fig.5 Maximum Non-repetitive Forward Surge Current**



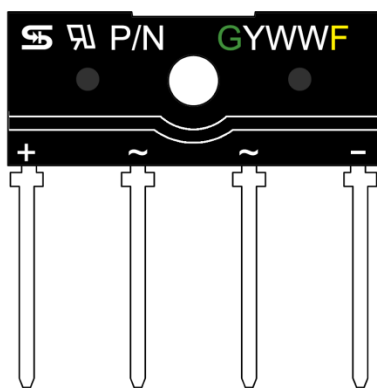
**PACKAGE OUTLINE DIMENSIONS** (Unit: Millimeters)

**KBJL**



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	4.00	4.40	0.157	0.173
A2	2.50	2.90	0.098	0.114
b	0.90	1.10	0.035	0.043
b2	2.10	2.30	0.083	0.091
c	0.30	0.70	0.012	0.028
c2	3.00	3.40	0.118	0.134
D	10.00	10.60	0.394	0.417
D1	5.50	5.90	0.217	0.232
D2	6.90	7.30	0.272	0.287
E	24.70	25.30	0.972	0.996
e	7.30	7.70	0.287	0.303
H	24.90	25.50	0.980	1.004
L	14.40	15.40	0.567	0.606
L4	1.20	1.60	0.047	0.063
P	3.30	3.50	0.130	0.138
P1	3.10	3.30	0.122	0.130

**MARKING DIAGRAM**



- P/N = Marking Code
- G = Green Compound
- YWW = Date Code
- F = Factory Code

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