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

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	

Pb-Free RoHS COMPLIANT

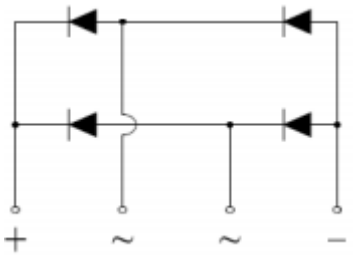
APPLICATIONS

- 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)

KBJL



ABSOLUTE MAXIMUM RATINGS (T_A = 25°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	t = 8.3ms	I_{FSM}	180			A
Rating of fusing (t<8.3ms)		I^2t	134			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-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(1)	I_F = 5A, T_J = 25°C	V_F	-	1.0	V
Reverse current @ rated V_R per diode(2)	T_J = 25°C	I_R	-	5	μA
	T_J = 125°C		-	150	μA

Notes:

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

ORDERING INFORMATION		
ORDERING CODE(1)(2)(3)	**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°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

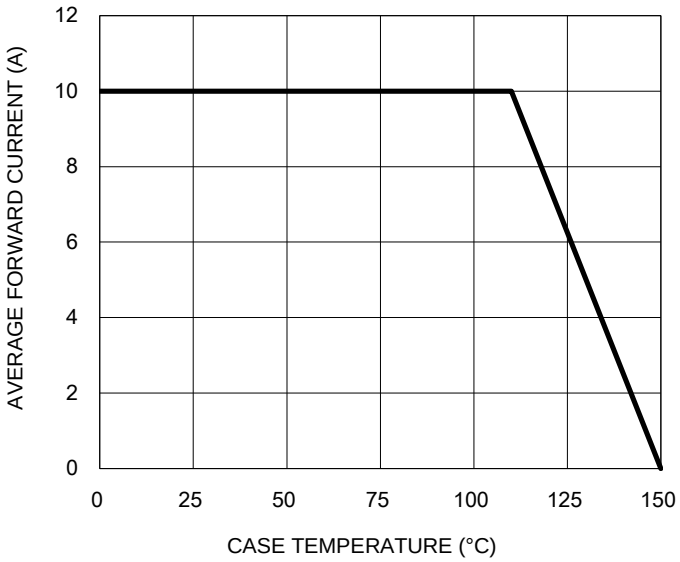


Fig.2 Typical Junction Capacitance

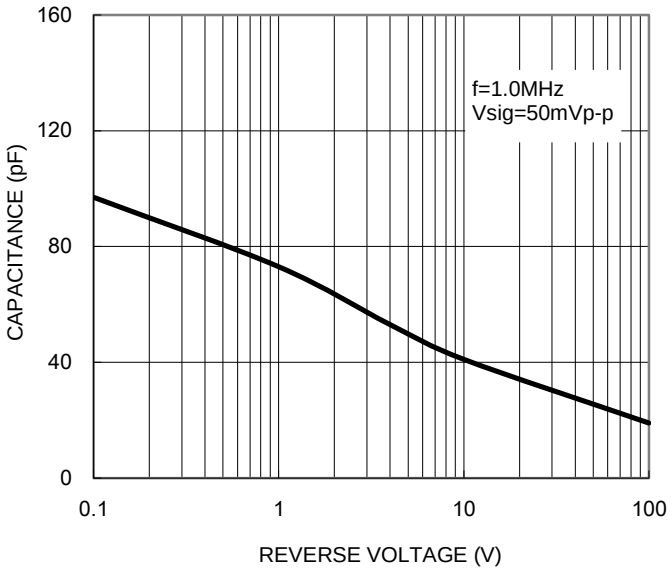


Fig.3 Typical Reverse Characteristics

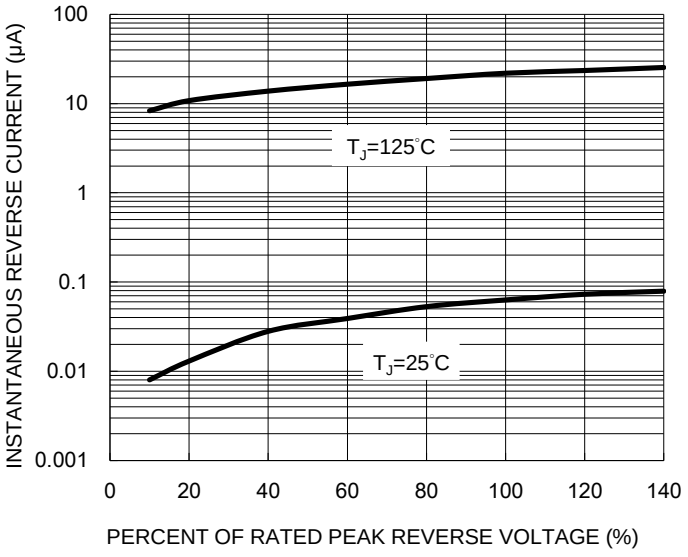
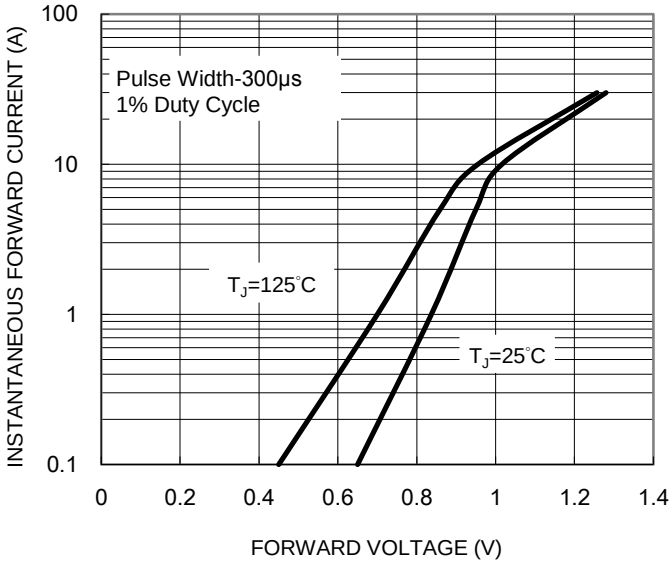


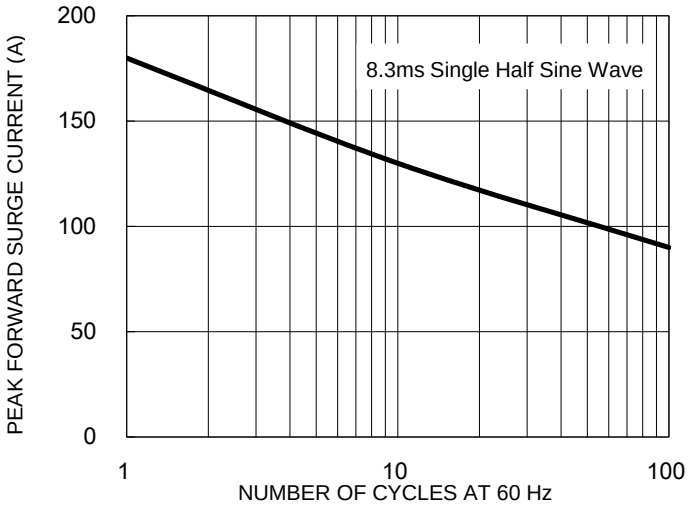
Fig.4 Typical Forward Characteristics



CHARACTERISTICS CURVES

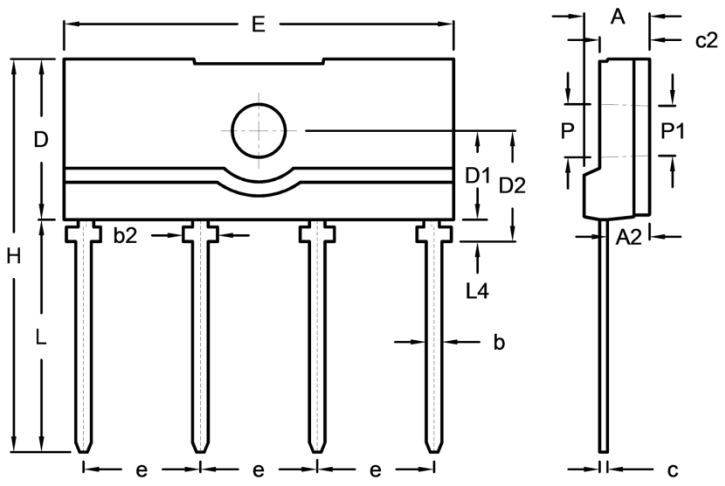
(T_A = 25°C unless otherwise noted)

Fig.5 Maximum Non-repetitive Forward Surge Current



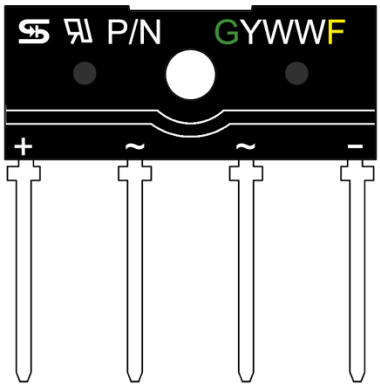
PACKAGE OUTLINE DIMENSIONS (Unit: Millimeters)

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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