

15A, 600V - 800V Low V_F Standard Bridge Rectifier

FEATURES

- AEC-Q101 qualified available
- Low forward drop enhance the efficiency
- Oxide planar chip junction
- High surge current capability
- UL Recognized File # E-326243
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

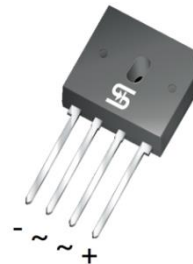
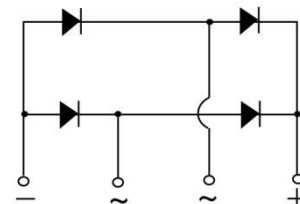
APPLICATIONS

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

MECHANICAL DATA

- Case: GBU
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Polarity: As marked
- Weight: 4.00g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	15	A
V_{RRM}	600 - 800	V
I_{FSM}	200	A
$T_{J\ MAX}$	150	°C
Package	GBU	
Configuration	Quad	


GBU


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

PARAMETER	SYMBOL	GBU15L05	GBU15L06	UNIT
Marking code on the device		GBU15L05	GBU15L06	
Repetitive peak reverse voltage	V_{RRM}	600	800	V
Reverse voltage, total rms value	$V_{R(RMS)}$	420	560	V
Forward current	I_F	15		A
Surge peak forward current single half sine-wave superimposed on rated load	$t = 8.3\text{ms}$	200		A
	$t = 1.0\text{ms}$	630		A
Rating for fusing ($t < 8.3\text{ms}$)	I^2t	166		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-ambient thermal resistance	$R_{\theta JA}$	15	°C/W
Junction-to-case thermal resistance	$R_{\theta JC}$	3	°C/W

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT	
Forward voltage per diode ⁽¹⁾	GBU15L05	V_F	$I_F = 7.5\text{A}, T_J = 25^\circ\text{C}$	0.87	0.90	V
			$I_F = 7.5\text{A}, T_J = 125^\circ\text{C}$	0.75	-	V
	GBU15L06		$I_F = 7.5\text{A}, T_J = 25^\circ\text{C}$	0.93	0.96	V
			$I_F = 7.5\text{A}, T_J = 125^\circ\text{C}$	-	-	V
Reverse current @ rated V_R per diode ⁽²⁾	$T_J = 25^\circ\text{C}$	I_R	-	5	μA	
	$T_J = 125^\circ\text{C}$		-	150	μA	

Notes:

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

ORDERING INFORMATION

ORDERING CODE ⁽¹⁾⁽²⁾	PACKAGE	PACKING
GBU15L0x	GBU	20 / Tube
GBU15L0xH	GBU	20 / Tube

Notes:

1. "x" defines voltage from 600V(GBU15L05) to 800V(GBU15L06)
2. "H" means AEC-Q101 qualified

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

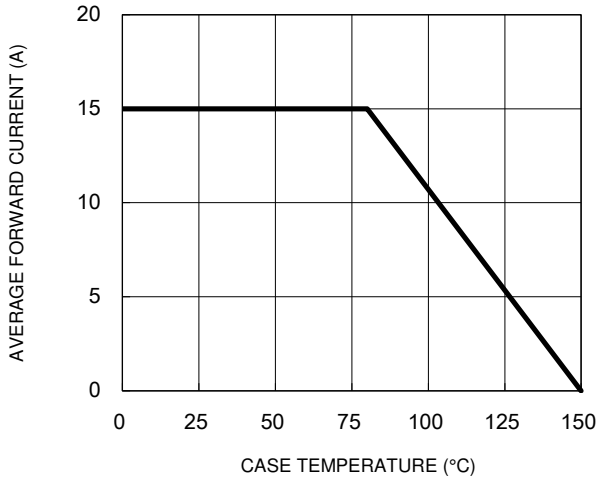


Fig.2 Typical Junction Capacitance

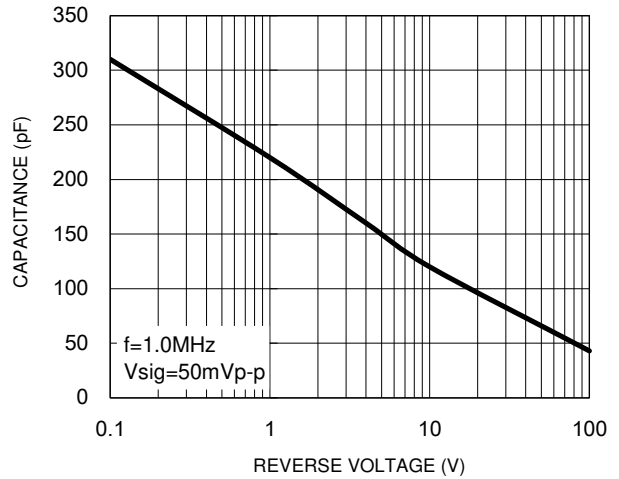


Fig.3 Typical Reverse Characteristics

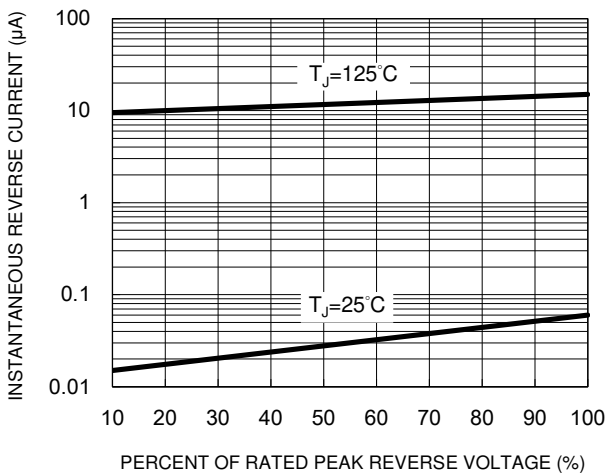


Fig.4 Typical Forward Characteristics

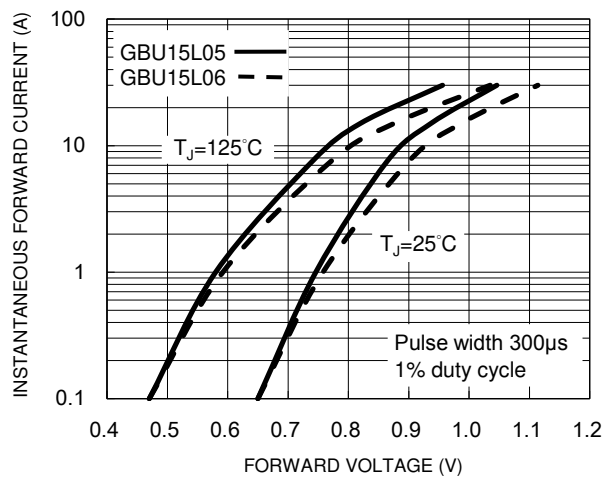
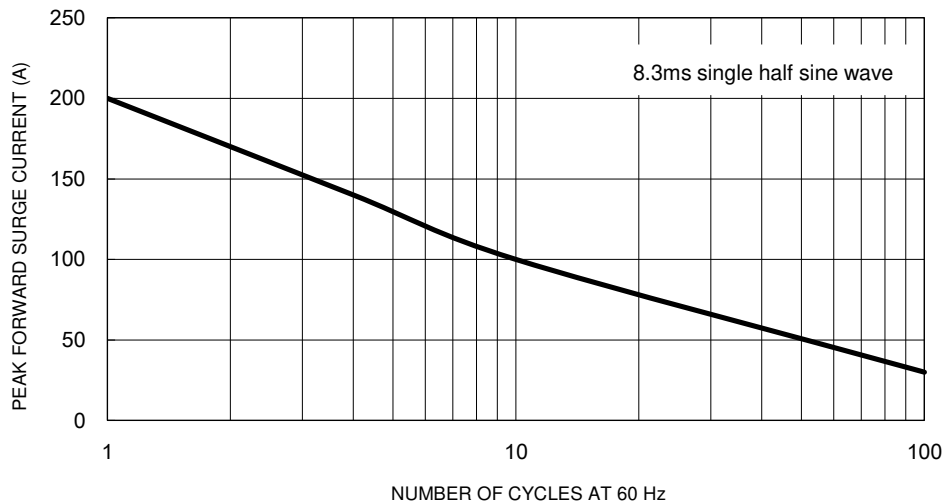
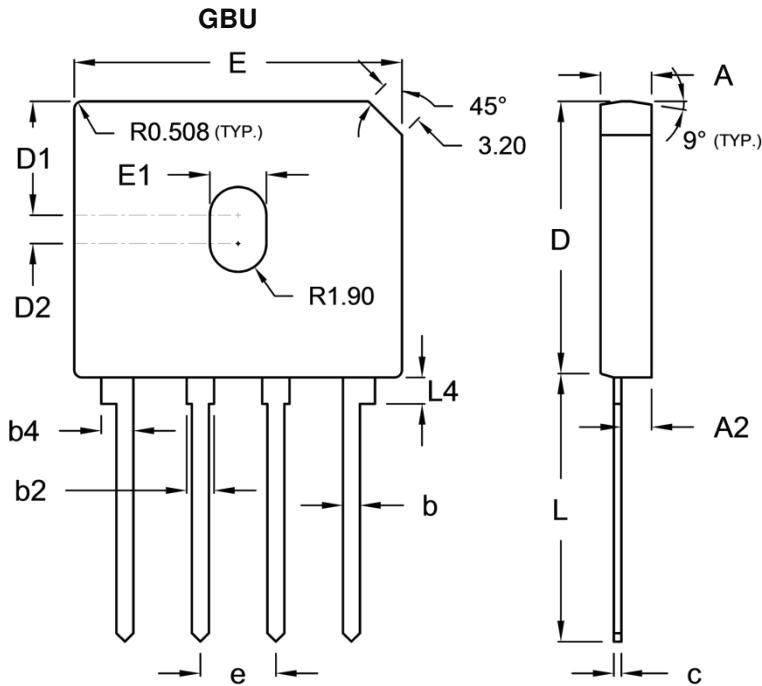


Fig.5 Maximum Non-Repetitive Forward Surge Current



PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	3.30	3.56	0.130	0.140
A2	1.90	2.16	0.075	0.085
b	1.02	1.27	0.040	0.050
b2	1.65	2.03	0.065	0.080
b4	2.16	2.54	0.085	0.100
c	0.46	0.56	0.018	0.022
D	18.30	18.80	0.720	0.740
D1	7.40	7.90	0.291	0.311
D2	1.65	2.16	0.065	0.085
E	21.80	22.30	0.858	0.878
E1	3.50	4.10	0.138	0.161
e	4.83	5.33	0.190	0.210
L	17.50	18.00	0.689	0.709
L4	1.52	2.03	0.060	0.080

MARKING DIAGRAM



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

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