



**THE DATASHEET OF  
DBL158G**



## 1.5A, 50V - 1400V Standard Bridge Rectifier

### FEATURES

- AEC-Q101 qualified available
- Ideal for printed circuit board
- Reliable low cost construction utilizing molded plastic technique
- High surge current capability
- UL Recognized File # E-326854
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

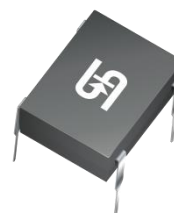
### APPLICATIONS

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

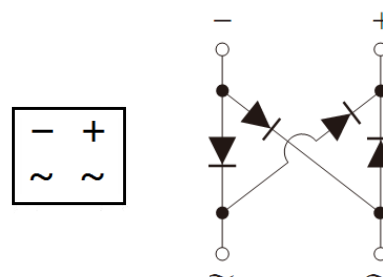
### MECHANICAL DATA

- Case: DBL
- 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
- Weight: 0.360g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_F$	1.5	A
$V_{RRM}$	50 - 1400	V
$I_{FSM}$	50	A
$T_{J\ MAX}$	150	°C
Package	DBL	
Configuration	Quad	



DBL



ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)											
PARAMETER	SYMBOL	DBL 151G	DBL 152G	DBL 153G	DBL 154G	DBL 155G	DBL 156G	DBL 157G	DBL 158G	DBL 159G	UNIT
Marking code on the device		DBL 151G	DBL 152G	DBL 153G	DBL 154G	DBL 155G	DBL 156G	DBL 157G	DBL 158G	DBL 159G	
Repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	1200	1400	V
Reverse voltage, total rms value	$V_{R(RMS)}$	35	70	140	280	420	560	700	840	980	V
Forward current	$I_F$	1.5									A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	50									A
Rating for fusing ( $t < 8.3\text{ms}$ )	$I^2t$	10.3									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	$R_{\theta JL}$	15	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	40	°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>	DBL151G DBL152G DBL153G DBL154G DBL155G DBL156G DBL157G	$I_F = 1.5\text{A}, T_J = 25^\circ\text{C}$	$V_F$	-	1.10	V
	DBL158G DBL159G			-	1.25	V
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>		$T_J = 25^\circ\text{C}$	$I_R$	-	2	$\mu\text{A}$
		$T_J = 125^\circ\text{C}$		-	500	$\mu\text{A}$
Junction capacitance per diode		1MHz, $V_R = 4.0\text{V}$	$C_J$	25	-	pF

**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</b> <sup>(1)(2)</sup>	<b>PACKAGE</b>	<b>PACKING</b>
DBL15xG	DBL	50 / Tube
DBL15xGH	DBL	50 / Tube

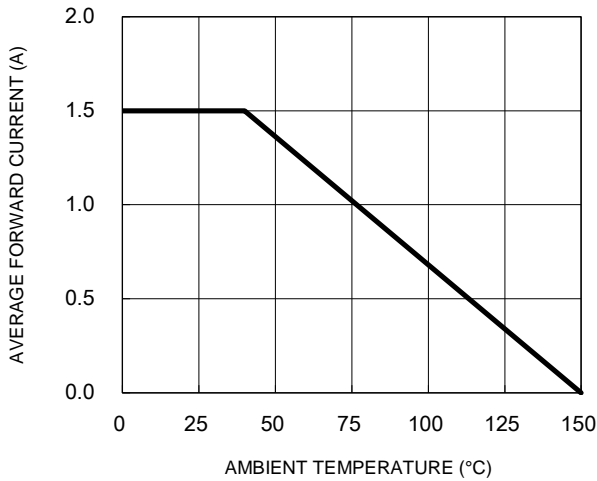
**Notes:**

1. "x" defines voltage from 50V(DBL151G) to 1400V(DBL159G)
2. "H" means AEC-Q101 qualified

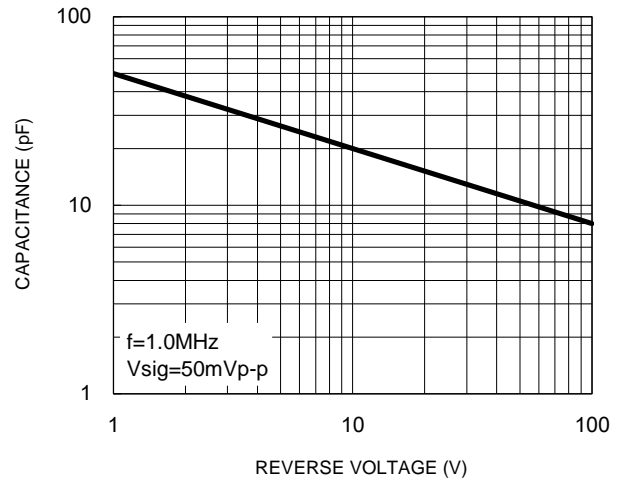
**CHARACTERISTICS CURVES**

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

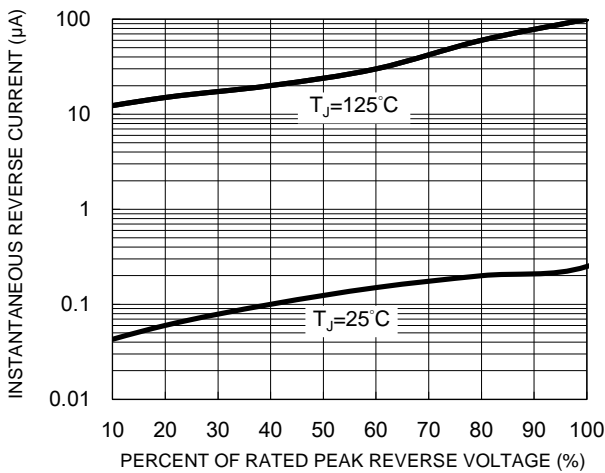
**Fig.1 Forward Current Derating Curve**



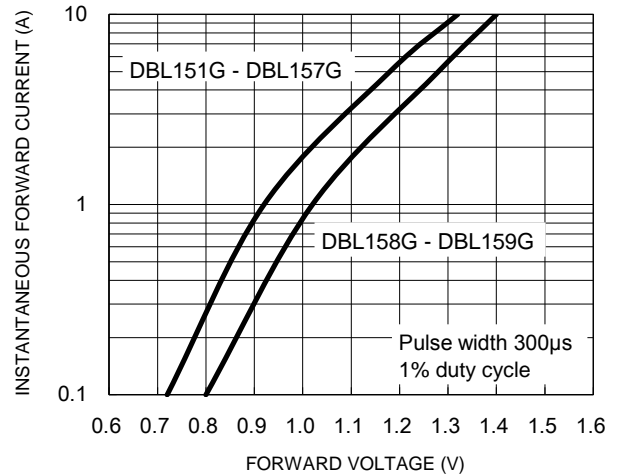
**Fig.2 Typical Junction Capacitance**



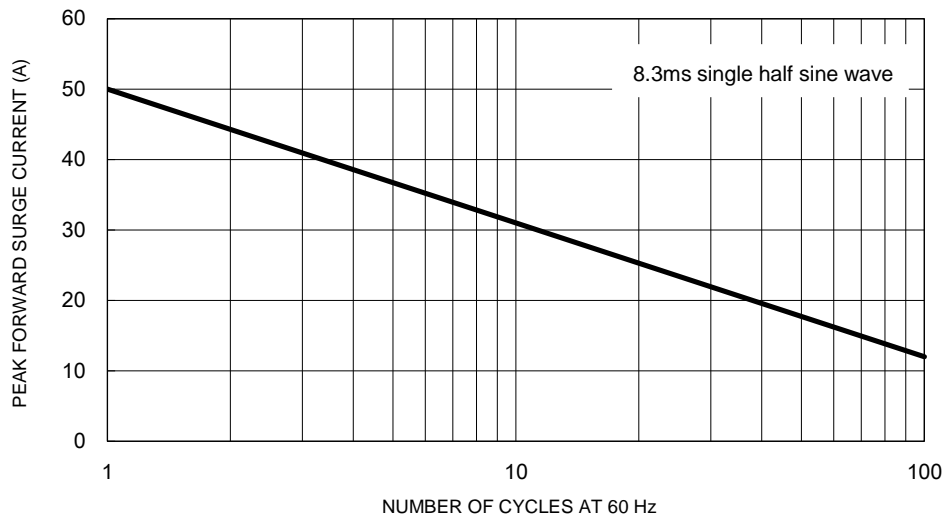
**Fig.3 Typical Reverse Characteristics**



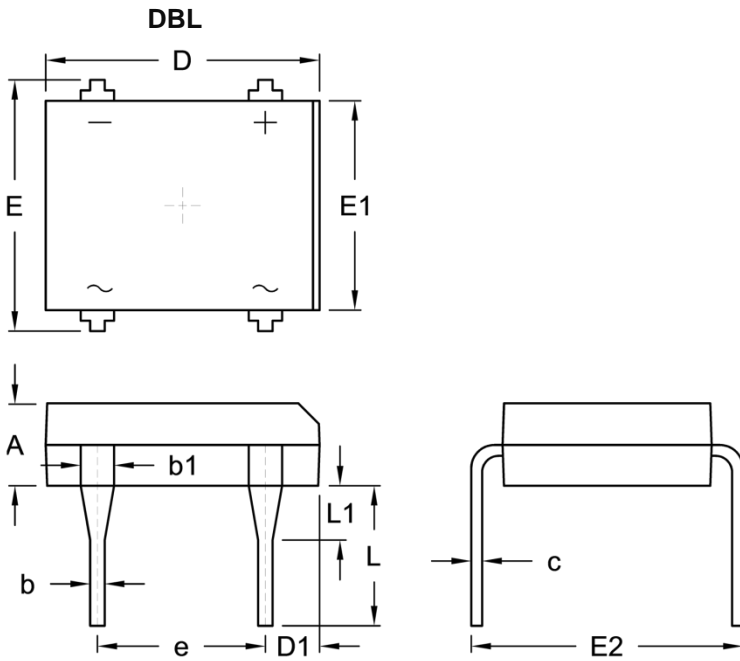
**Fig.4 Typical Forward Characteristics**



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



**PACKAGE OUTLINE DIMENSIONS**



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	2.40	2.60	0.094	0.102
b	0.46	0.58	0.018	0.023
b1	0.89	1.14	0.035	0.045
c	0.22	0.33	0.009	0.013
D	8.12	8.51	0.320	0.335
D1	1.39	1.90	0.055	0.075
e	5.00	5.20	0.197	0.205
E	7.24	8.00	0.285	0.315
E1	6.20	6.50	0.244	0.256
E2	7.60	8.90	0.299	0.350
L	3.81	4.69	0.150	0.185
L1	1.27	2.03	0.050	0.080

**MARKING DIAGRAM**



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

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