

## 1A, 50V - 1000V 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
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

### APPLICATIONS

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

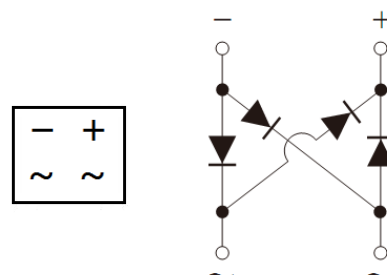
### MECHANICAL DATA

- Case: DBLS
- 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         | A    |
| $V_{RRM}$      | 50 - 1000 | V    |
| $I_{FSM}$      | 30, 40    | A    |
| $T_{J\ MAX}$   | 150       | °C   |
| Package        | DBLS      |      |
| Configuration  | Quad      |      |



DBLS



| ABSOLUTE MAXIMUM RATINGS (T <sub>A</sub> = 25°C unless otherwise noted)                  |                     |              |              |              |              |              |              |              |                  |
|------------------------------------------------------------------------------------------|---------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------------------|
| PARAMETER                                                                                | SYMBOL              | DBLS<br>101G | DBLS<br>102G | DBLS<br>103G | DBLS<br>104G | DBLS<br>105G | DBLS<br>106G | DBLS<br>107G | UNIT             |
| Marking code on the device                                                               |                     | DBLS<br>101G | DBLS<br>102G | DBLS<br>103G | DBLS<br>104G | DBLS<br>105G | DBLS<br>106G | DBLS<br>107G |                  |
| Repetitive peak reverse voltage                                                          | V <sub>RRM</sub>    | 50           | 100          | 200          | 400          | 600          | 800          | 1000         | V                |
| Reverse voltage, total rms value                                                         | V <sub>R(RMS)</sub> | 35           | 70           | 140          | 280          | 420          | 560          | 700          | V                |
| Forward current                                                                          | I <sub>F</sub>      | 1            |              |              |              |              |              |              | A                |
| Peak forward surge current,<br>8.3ms single half sine-wave<br>superimposed on rated load | I <sub>FSM</sub>    | 40           |              |              |              |              | 30           |              | A                |
| Rating for fusing (t<8.3ms)                                                              | I <sup>2</sup> t    | 6.6          |              |              |              |              | 3.7          |              | A <sup>2</sup> s |
| Junction temperature                                                                     | T <sub>J</sub>      | - 55 to +150 |              |              |              |              |              |              | °C               |
| Storage temperature                                                                      | T <sub>STG</sub>    | - 55 to +150 |              |              |              |              |              |              | °C               |

**THERMAL PERFORMANCE**

| PARAMETER                              | SYMBOL          | TYP | UNIT |
|----------------------------------------|-----------------|-----|------|
| Junction-to-lead thermal resistance    | $R_{\theta JL}$ | 15  | °C/W |
| Junction-to-ambient thermal resistance | $R_{\theta JA}$ | 40  | °C/W |

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

| PARAMETER                                              | CONDITIONS                                | SYMBOL | TYP | MAX | UNIT          |
|--------------------------------------------------------|-------------------------------------------|--------|-----|-----|---------------|
| Forward voltage per diode <sup>(1)</sup>               | $I_F = 1\text{A}, T_J = 25^\circ\text{C}$ | $V_F$  | -   | 1.1 | V             |
| Reverse current @ rated $V_R$ per diode <sup>(2)</sup> | $T_J = 25^\circ\text{C}$                  | $I_R$  | -   | 2   | $\mu\text{A}$ |
|                                                        | $T_J = 125^\circ\text{C}$                 |        | -   | 100 | $\mu\text{A}$ |
| 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  $PW = 30\text{ms}$

**ORDERING INFORMATION**

| ORDERING CODE <sup>(1)(2)</sup> | PACKAGE | PACKING             |
|---------------------------------|---------|---------------------|
| DBLS1xG                         | DBLS    | 1,500 / Tape & Reel |
| DBLS1xGH                        | DBLS    | 1,500 / Tape & Reel |

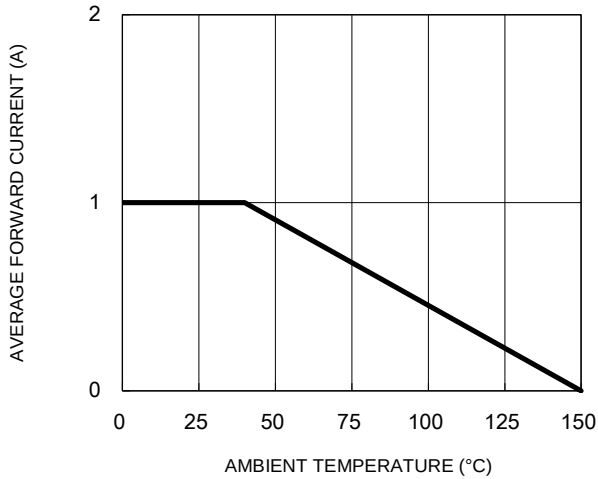
**Notes:**

1. "x" defines voltage from 50V(DBLS101G) to 1000V(DBLS107G)
2. "H" means AEC-Q101 qualified

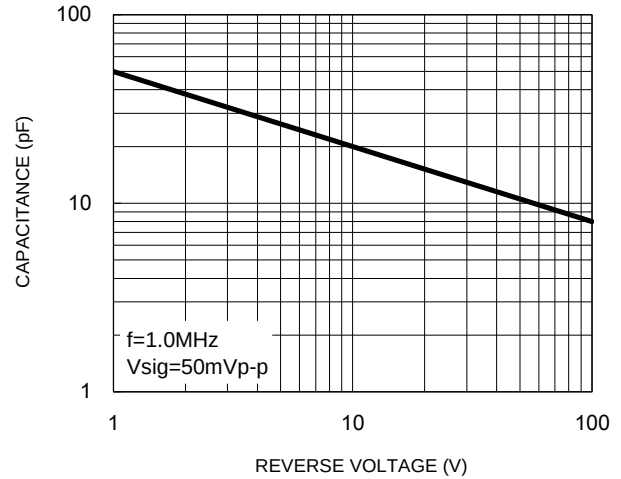
## CHARACTERISTICS CURVES

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

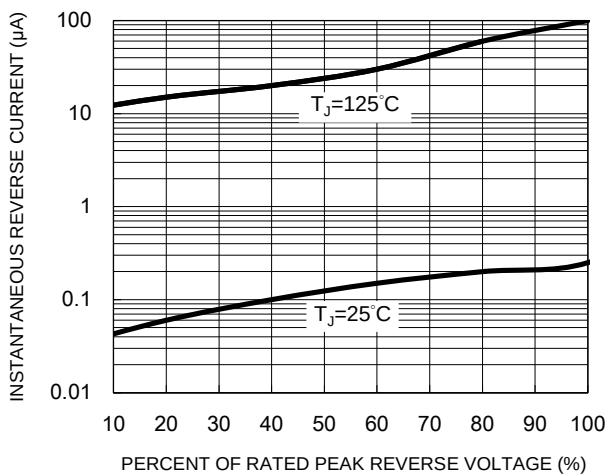
**Fig.1 Forward Current Derating Curve**



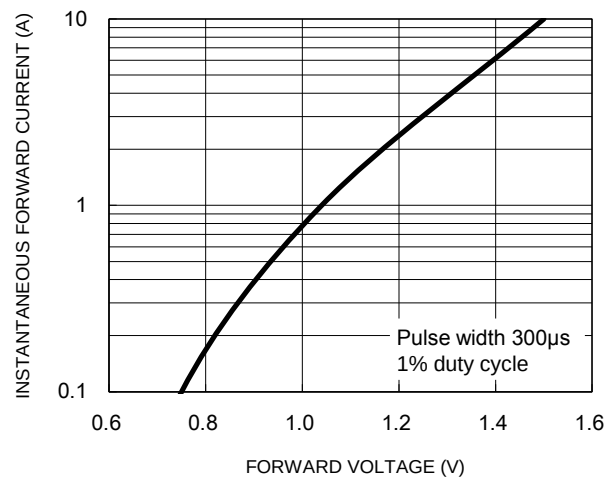
**Fig.2 Typical Junction Capacitance**



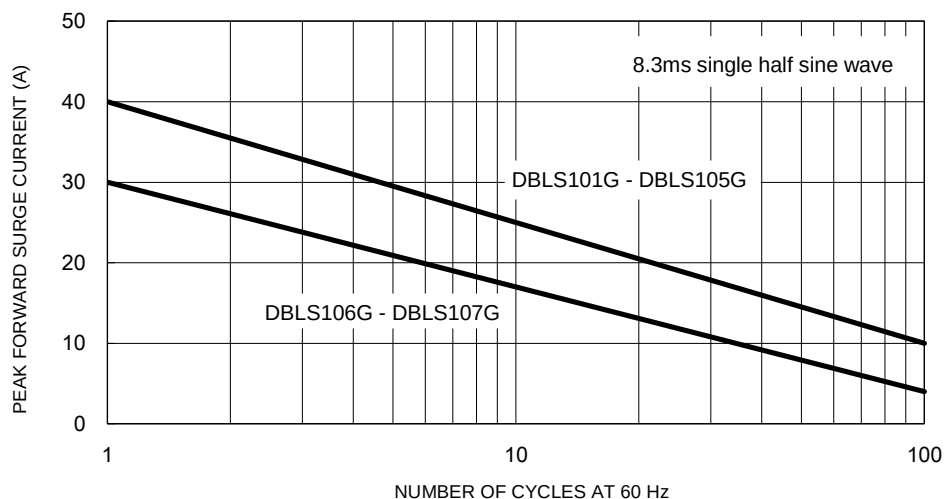
**Fig.3 Typical Reverse Characteristics**



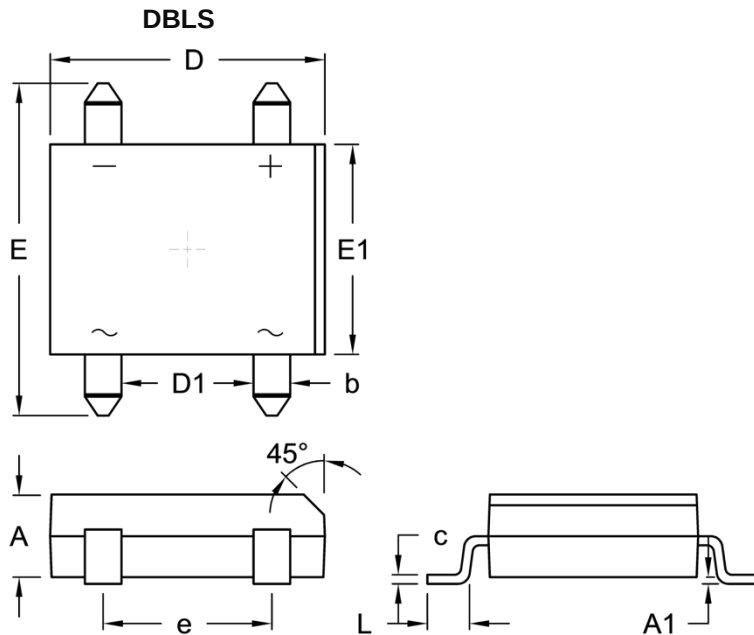
**Fig.4 Typical Forward Characteristics**



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

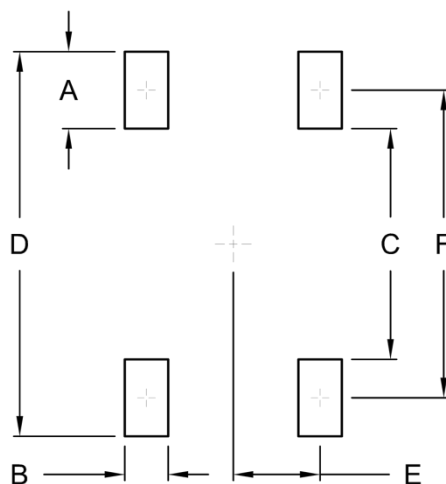


## PACKAGE OUTLINE DIMENSIONS



| DIM. | Unit (mm) |       | Unit (inch) |       |
|------|-----------|-------|-------------|-------|
|      | Min.      | Max.  | Min.        | Max.  |
| A    | 2.40      | 2.60  | 0.094       | 0.102 |
| A1   | 0.076     | 0.330 | 0.003       | 0.013 |
| b    | 1.02      | 1.20  | 0.040       | 0.047 |
| c    | 0.22      | 0.33  | 0.009       | 0.013 |
| D    | 8.13      | 8.51  | 0.320       | 0.335 |
| D1   | 3.90      | 4.10  | 0.154       | 0.161 |
| E    | 9.80      | 10.30 | 0.386       | 0.406 |
| E1   | 6.20      | 6.50  | 0.244       | 0.256 |
| e    | 5.00      | 5.20  | 0.197       | 0.205 |
| L    | 1.02      | 1.53  | 0.040       | 0.060 |

## SUGGESTED PAD LAYOUT



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A      | 2.30      | 0.091       |
| B      | 1.30      | 0.051       |
| C      | 6.90      | 0.272       |
| D      | 11.50     | 0.453       |
| E      | 2.60      | 0.102       |
| F      | 9.20      | 0.362       |

## MARKING DIAGRAM



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

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