

1A, 400V - 1000V Glass Passivated Bridge Rectifier

FEATURES

- Ideal for automated placement
- Reliable low cost construction utilizing molded plastic technique
- High surge current capability
- UL Recognized File # E-326854
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

| KEY PARAMETERS | | |
|----------------|------------|------|
| PARAMETER | VALUE | UNIT |
| $I_{F(AV)}$ | 1 | A |
| V_{RRM} | 400 - 1000 | V |
| T_{JMAX} | 150 | °C |
| Package | DBLS | |
| Configuration | Quad | |

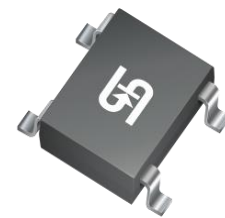
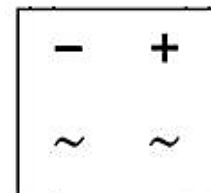
APPLICATIONS

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



MECHANICAL DATA

- Case: DBLS
- Molding compound :meets UL 94V-0 flammability rating
- Packing code with suffix "G" means green compound (halogen-free)
- Moisture sensitivity level: level 1, per J-STD-020
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: As marked
- Weight: 0.36 g (approximately)


DBLS


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

| PARAMETER | SYMBOL | DBLS 104G-T | DBLS 105G-T | DBLS 106G-T | DBLS 107G-T | UNIT |
|---|--------------|-------------|-------------|-------------|-------------|------------------|
| Marking code on the device | | DBLS104G | DBLS105G | DBLS106G | DBLS107G | |
| Repetitive peak reverse voltage | V_{RRM} | 400 | 600 | 800 | 1000 | V |
| Reverse voltage, total rms value | $V_{R(RMS)}$ | 280 | 420 | 560 | 700 | V |
| Maximum DC blocking voltage | V_{DC} | 400 | 600 | 800 | 1000 | V |
| Forward current | $I_{F(AV)}$ | 1.0 | | | | A |
| Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load | I_{FSM} | 40 | | 30 | | A |
| I^2t value (of a surge on-state current) | I^2t | 6.6 | | 3.7 | | A ² s |
| Junction temperature | T_J | -55 to +150 | | | | °C |
| Storage temperature | T_{STG} | -55 to +150 | | | | °C |

| THERMAL PERFORMANCE | | | |
|--|-----------------|--------------|-------------|
| PARAMETER | SYMBOL | LIMIT | 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 ⁽¹⁾ | $I_F = 1\text{A}, T_J = 25^\circ\text{C}$ | V_F | - | 1.1 | V |
| Reverse current @ rated V_R ⁽²⁾ | $T_J = 25^\circ\text{C}$ | I_R | - | 2 | μA |
| | $T_J = 125^\circ\text{C}$ | | - | 100 | μA |
| Junction capacitance | 1 MHz, $V_R = 4.0\text{V}$ | C_J | 25 | - | pF |

Notes:

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

| ORDERING INFORMATION | | | | |
|-----------------------------|---------------------|----------------------------|----------------|------------------------|
| PART NO. | PACKING CODE | PACKING CODE SUFFIX | PACKAGE | PACKING |
| DBLS10xG-T (Note 1, 2) | C1 | G | DBLS | 50 / TUBE |
| | RD | | DBLS | 1,500 / 13" Paper reel |

Notes:

1. "x" defines voltage from 400V (DBLS104G-T) to 1000V (DBLS107G-T)
2. Whole series with green compound (halogen-free)

| EXAMPLE P/N | | | | |
|--------------------|-----------------|---------------------|----------------------------|--------------------|
| EXAMPLE P/N | PART NO. | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION |
| DBLS104G-T C1G | DBLS104G-T | C1 | G | Green compound |

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

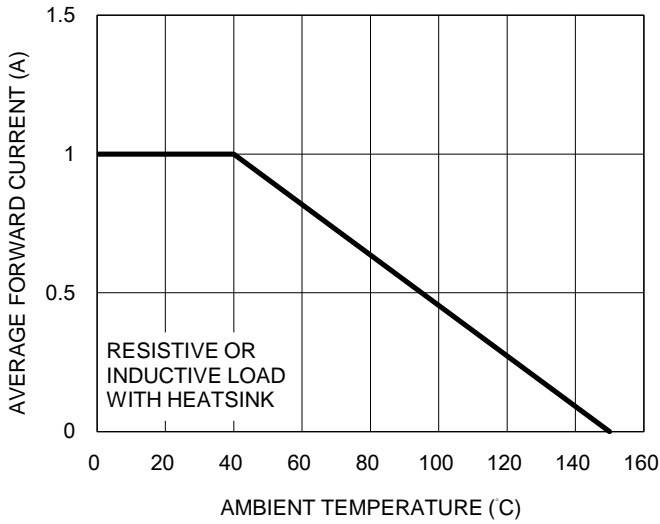


Fig.2 Typical Junction Capacitance

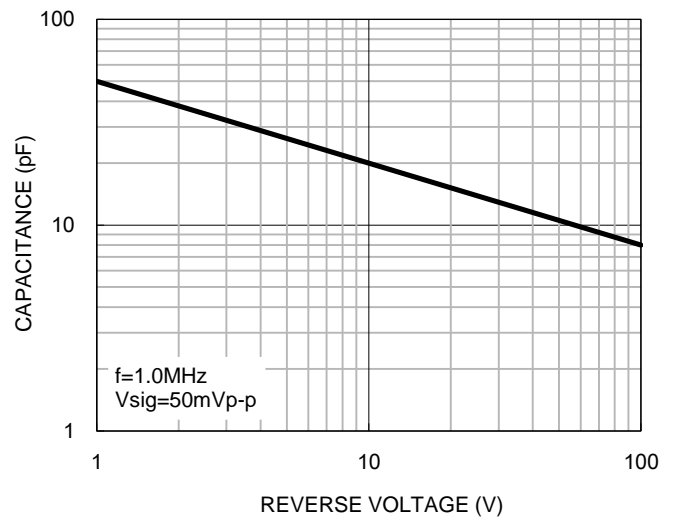


Fig.3 Typical Reverse Characteristics

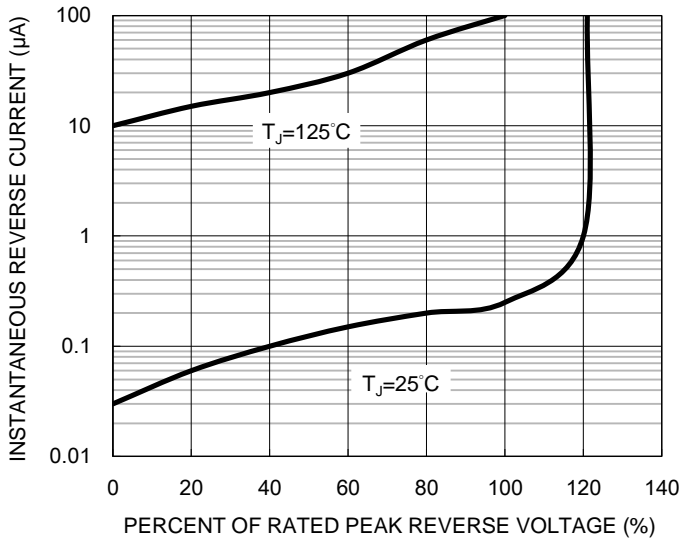
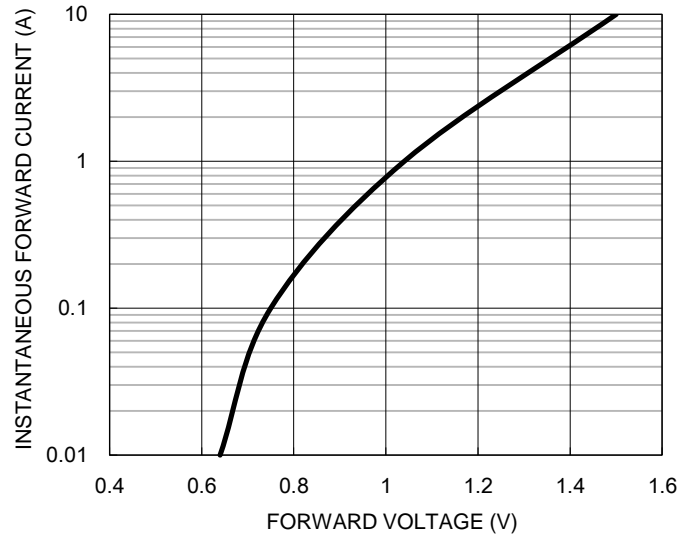


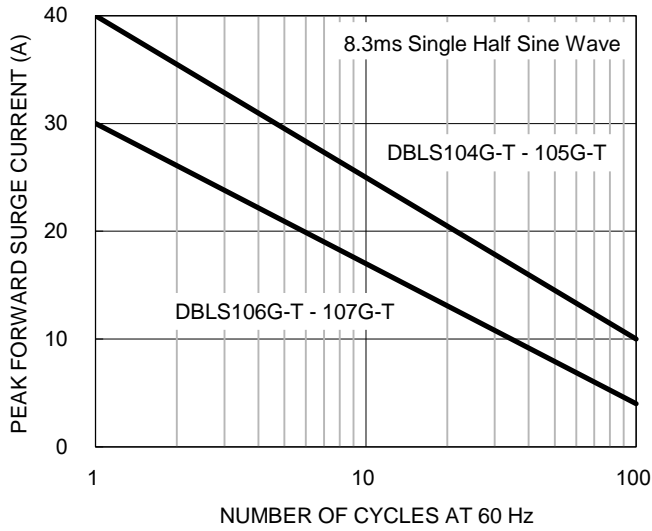
Fig.4 Typical Forward Characteristics



CHARACTERISTICS CURVES

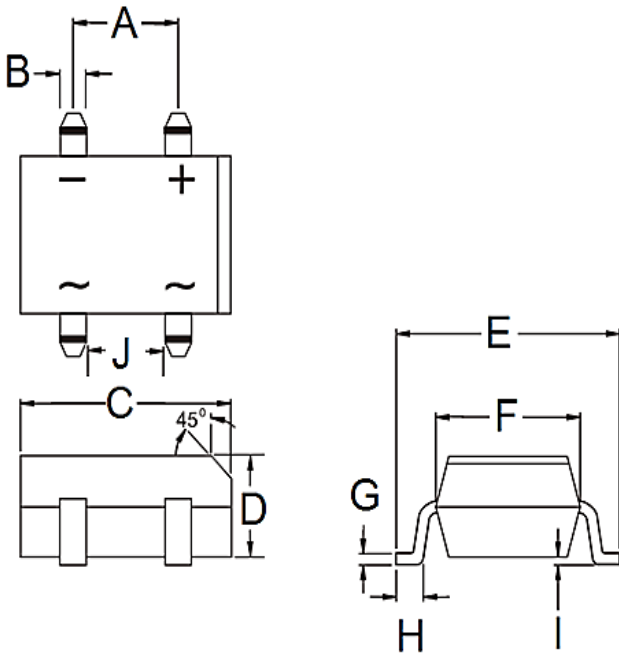
(T_A = 25°C unless otherwise noted)

Fig.5 Maximum Non-repetitive Forward Surge Current



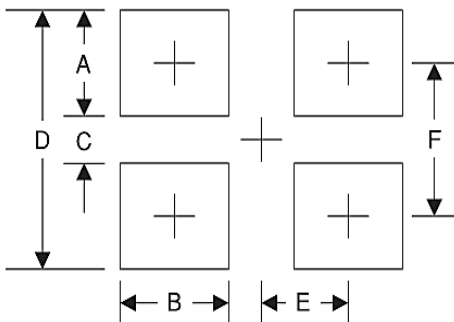
PACKAGE OUTLINE DIMENSIONS

DBLS



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|-------|-------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 5.00 | 5.20 | 0.197 | 0.205 |
| B | 1.02 | 1.20 | 0.040 | 0.047 |
| C | 8.13 | 8.51 | 0.320 | 0.335 |
| D | 2.35 | 2.60 | 0.093 | 0.102 |
| E | 9.80 | 10.30 | 0.386 | 0.406 |
| F | 6.20 | 6.50 | 0.244 | 0.256 |
| G | 0.22 | 0.33 | 0.009 | 0.013 |
| H | 1.02 | 1.53 | 0.040 | 0.060 |
| I | 0.076 | 0.33 | 0.003 | 0.013 |
| J | 3.90 | 4.10 | 0.154 | 0.161 |

SUGGESTED PAD LAYOUT



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A | 2.3 | 0.091 |
| B | 1.3 | 0.051 |
| C | 6.9 | 0.272 |
| D | 11.5 | 0.453 |
| E | 2.6 | 0.102 |
| F | 9.2 | 0.362 |

MARKING DIAGRAM



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

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Тел: +7 (812) 336 43 04 (многоканальный)
Email: org@lifeelectronics.ru