

8A, 600V - 1000V Bridge Rectifier

FEATURES

- Ideal for printed circuit board
- High case dielectric strength
- High surge current capability
- UL Recognized File # E-326243
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

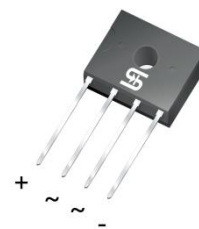
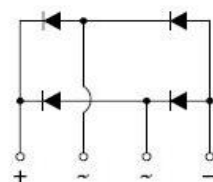
APPLICATIONS

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

MECHANICAL DATA

- Case: D3K
- Molding compound :meets UL 94V-0 flammability rating
- Packing code with suffix "G" means green compound (halogen-free)
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Mounting torque: 0.8 Nm max.
- Polarity: As marked
- Weight: 1.24 g (approximately)

| KEY PARAMETERS | | |
|----------------|------------|------|
| PARAMETER | VALUE | UNIT |
| $I_{F(AV)}$ | 8 | A |
| V_{RRM} | 600 - 1000 | V |
| I_{FSM} | 170 | A |
| T_{JMAX} | 150 | °C |
| Package | D3K | |
| Configuration | Quad | |


D3K


| ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | | | |
|---|--------------|-------------|---------|----------|----------------------|
| PARAMETER | SYMBOL | UR8KB60 | UR8KB80 | UR8KB100 | UNIT |
| Marking code on the device | | UR8KB60 | UR8KB80 | UR8KB100 | |
| Repetitive peak reverse voltage | V_{RRM} | 600 | 800 | 1000 | V |
| Reverse voltage, total rms value | $V_{R(RMS)}$ | 420 | 560 | 700 | V |
| Forward current | $I_{F(AV)}$ | 8 | | | A |
| Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode | I_{FSM} | 170 | | | A |
| I^2t value (of a surge on-state current) | I^2t | 115 | | | A^2s |
| 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 | $R_{\theta JL}$ | 13 | °C/W |
| Junction-to-ambient thermal resistance | $R_{\theta JA}$ | 25 | °C/W |
| Junction-to-case thermal resistance | $R_{\theta JC}$ | 14 | °C/W |

Thermal Performance Note: Mounted on Heat sink Size of 4"x6"x0.25" Al-Plate

| ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | | | |
|---|--|---------------|------------|------------|---------------|
| PARAMETER | CONDITIONS | SYMBOL | TYP | MAX | UNIT |
| Forward voltage per diode ⁽¹⁾ | $I_F = 4\text{A}, T_J = 25^\circ\text{C}$ | V_F | 0.93 | 1.10 | V |
| | $I_F = 8\text{A}, T_J = 25^\circ\text{C}$ | | 1.00 | 1.20 | V |
| | $I_F = 4\text{A}, T_J = 125^\circ\text{C}$ | | 0.81 | 1.00 | V |
| | $I_F = 8\text{A}, T_J = 125^\circ\text{C}$ | | 0.90 | 1.10 | V |
| Reverse current @ rated V_R per diode ⁽²⁾ | $T_J = 25^\circ\text{C}$ | I_R | - | 10 | μA |
| | $T_J = 125^\circ\text{C}$ | | - | 0.5 | mA |
| Junction capacitance | 1 MHz, $V_R = 4\text{V}$ | C_J | 63 | - | 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 |
| UR8KBxxx (Note 1, 2) | C2 | G | D3K | 1,500 / BOX |

Notes:

1. "xxx" defines voltage from 600V (UR8KB60) to 1000V (UR8KB100)
2. Whole series with green compound(halogen-free)

| EXAMPLE | | | | |
|--------------------|-----------------|---------------------|----------------------------|--------------------|
| EXAMPLE P/N | PART NO. | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION |
| UR8KB100 C2G | UR8KB100 | C2 | G | Green compound |

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

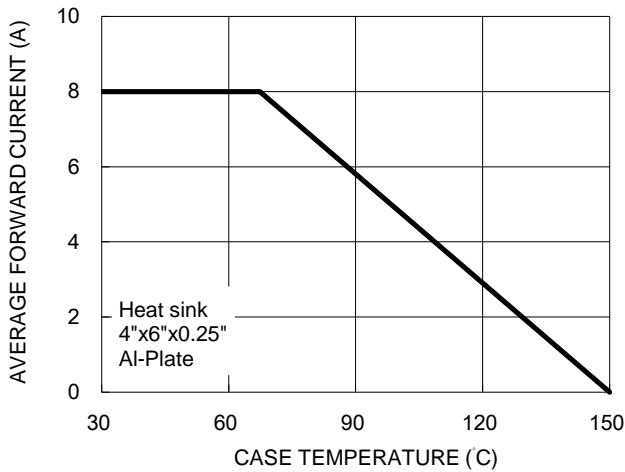


Fig.2 Typical Junction Capacitance

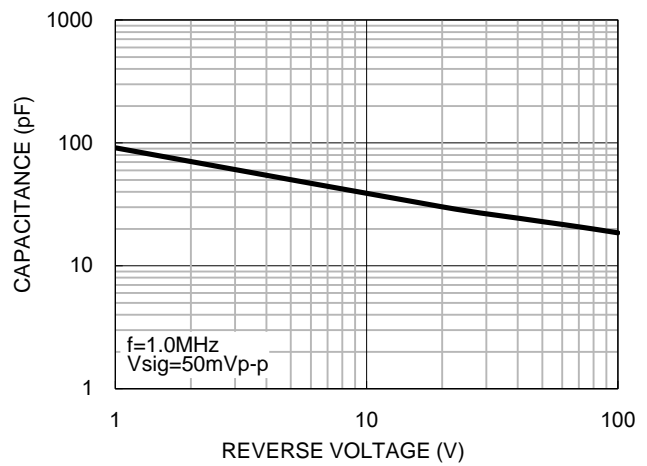


Fig.3 Typical Reverse Characteristics

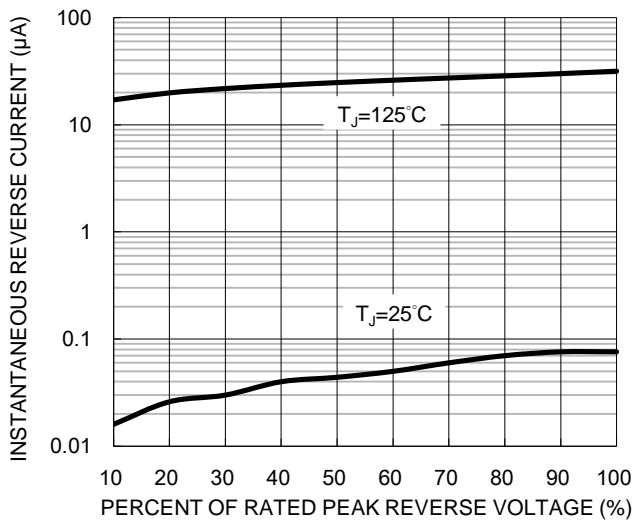
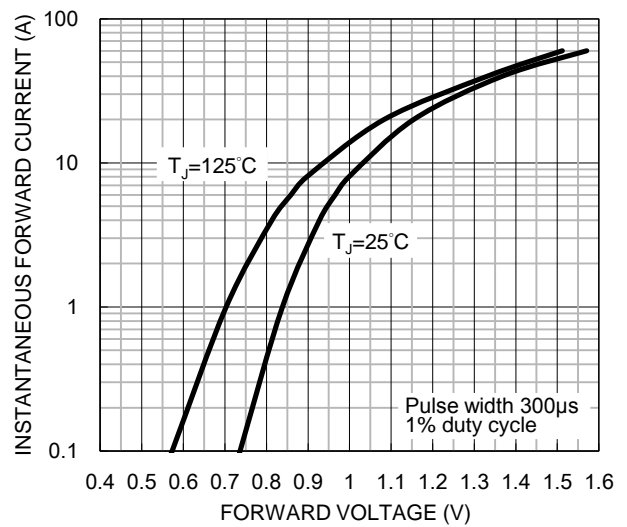
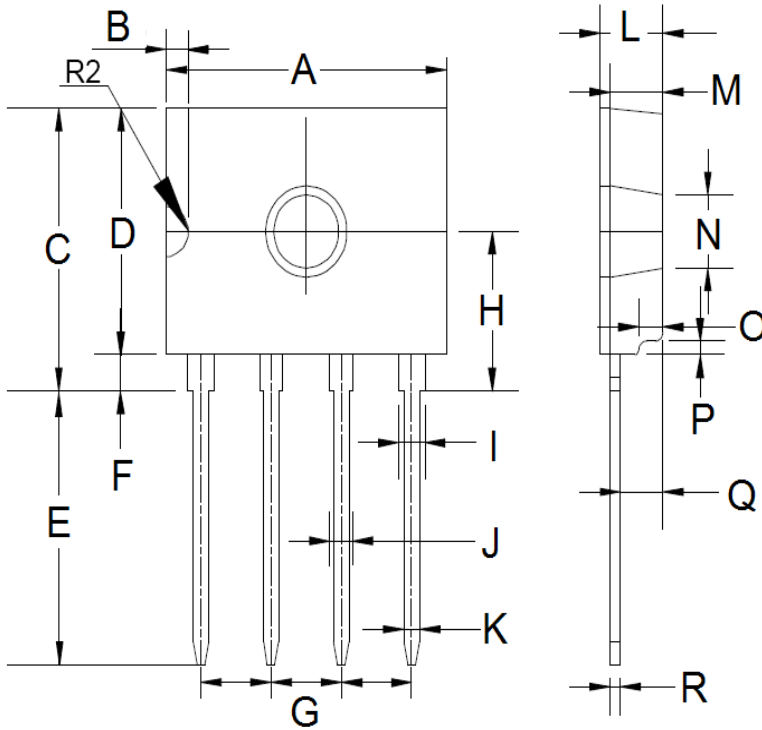


Fig.4 Typical Forward Characteristics



PACKAGE OUTLINE DIMENSIONS

D3K



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|-------|-------------|-------|
| | Min | Max | Min | Max |
| A | 13.50 | 14.10 | 0.531 | 0.555 |
| B | 0.70 | 1.40 | 0.028 | 0.055 |
| C | 11.70 | 12.30 | 0.461 | 0.484 |
| D | 10.50 | 11.10 | 0.413 | 0.437 |
| E | 11.70 | 12.30 | 0.461 | 0.484 |
| F | 1.10 | 1.40 | 0.043 | 0.055 |
| G | 3.51 | 4.11 | 0.138 | 0.162 |
| H | 6.70 | 7.30 | 0.264 | 0.287 |
| I | 1.10 | 1.50 | 0.043 | 0.059 |
| J | 1.05 | 1.25 | 0.041 | 0.049 |
| K | 0.66 | 0.86 | 0.026 | 0.034 |
| L | 2.90 | 3.30 | 0.114 | 0.130 |
| M | 2.40 | 2.80 | 0.094 | 0.110 |
| N | 3.10 | 3.40 | 0.122 | 0.134 |
| O | 1.00 | 1.40 | 0.039 | 0.055 |
| P | 0.40 | 0.80 | 0.016 | 0.031 |
| Q | 1.80 | 2.40 | 0.071 | 0.094 |
| R | 0.40 | 0.60 | 0.016 | 0.024 |

MARKING DIAGRAM



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

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