

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

FEATURES

- Glass passivated junction
- 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 |
| I_{FSM} | 30 | A |
| T_{JMAX} | 150 | °C |
| Package | ABS | |
| Configuration | Quad | |

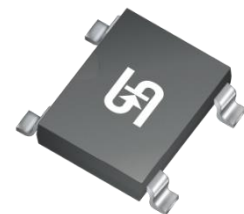
APPLICATIONS

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

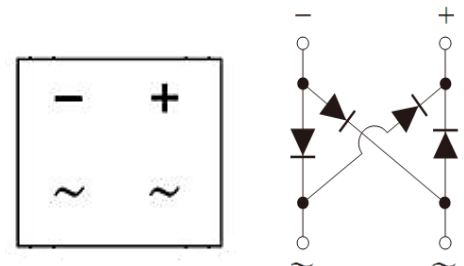


MECHANICAL DATA

- Case: ABS
- 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: 0.12 g (approximately)



ABS



| ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | | | | |
|---|--------------|-------------|--------|--------|---------|----------------------|
| PARAMETER | SYMBOL | ABS4-K | ABS6-K | ABS8-K | ABS10-K | UNIT |
| Marking code on the device | | ABS4 | ABS6 | ABS8 | ABS10 | |
| 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 On glass-epoxy | $I_{F(AV)}$ | 0.8 | | | | A |
| Forward current On aluminum substrate | | 1.0 | | | | |
| Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load | I_{FSM} | 30 | | | | A |
| I^2t value (of a surge on-state current) | I^2t | 3.74 | | | | 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 | $R_{\theta JL}$ | 25 | °C/W |
| Junction-to-ambient thermal resistance | $R_{\theta JA}$ | 80 | °C/W |

| ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | | | |
|---|--|---------------|-------------|-------------|---------------|
| PARAMETER | CONDITIONS | SYMBOL | TYP. | MAX. | UNIT |
| Forward voltage ⁽¹⁾ | $I_F = 0.4\text{A}$, $T_J = 25^\circ\text{C}$ | V_F | - | 0.95 | V |
| Reverse current @ rated V_R ⁽²⁾ | $T_J = 25^\circ\text{C}$ | I_R | - | 10 | 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 | | | | |
|-----------------------------|---------------------|----------------------------|----------------|-------------------------|
| PART NO. | PACKING CODE | PACKING CODE SUFFIX | PACKAGE | PACKING |
| ABSxx-K (Note 1, 2) | RE | G | ABS | 1,000 / 7" Plastic reel |
| | RG | | ABS | 5,000 / 13" Paper reel |

Notes:

1. "xx" defines voltage from 400V (ABS4-K) to 1000V (ABS10-K)
2. Whole series with green compound (halogen-free)

| EXAMPLE P/N | | | | |
|--------------------|-----------------|---------------------|----------------------------|--------------------|
| EXAMPLE P/N | PART NO. | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION |
| ABS8-K REG | ABS8-K | RE | G | Green compound |

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

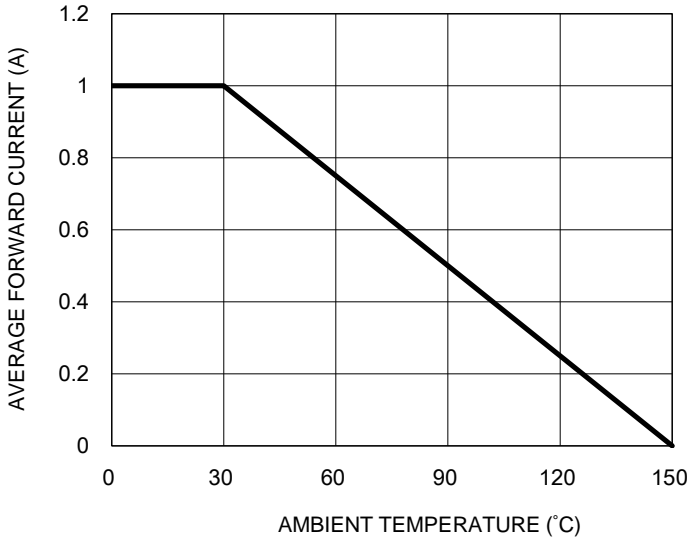


Fig.2 Typical Junction Capacitance

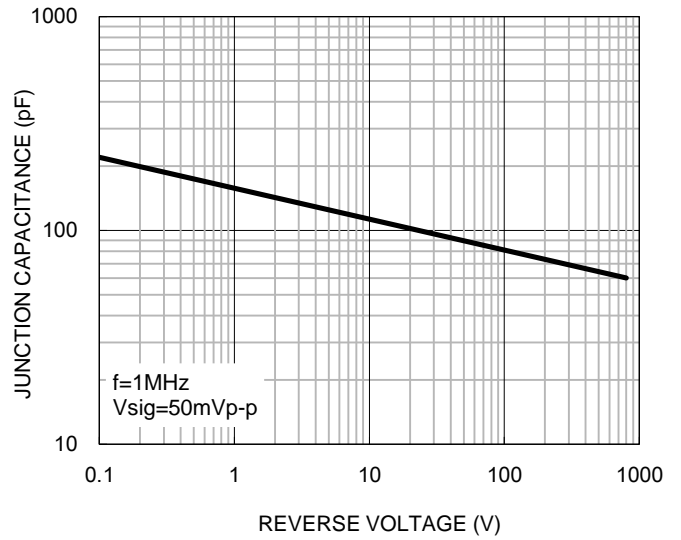


Fig.3 Typical Reverse Characteristics

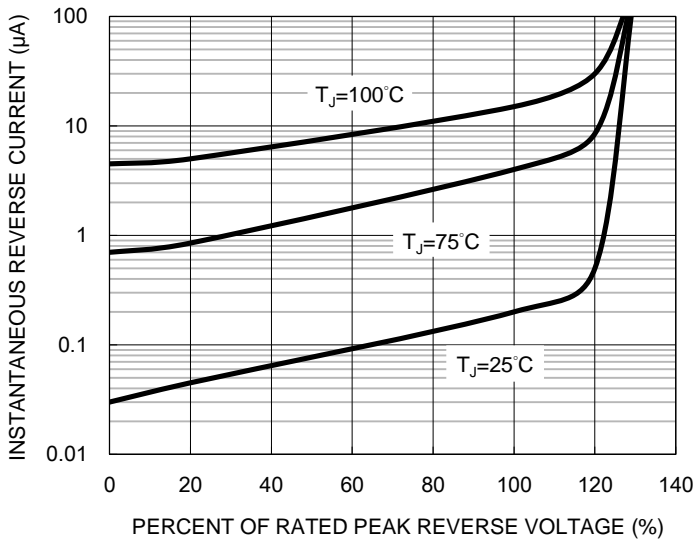
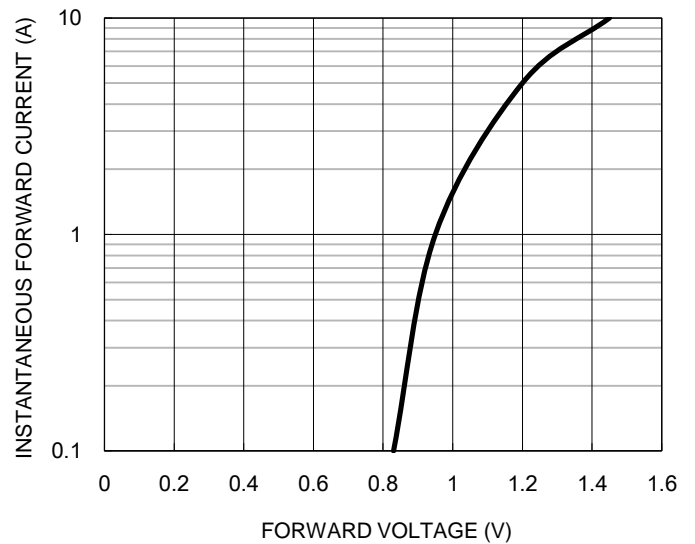


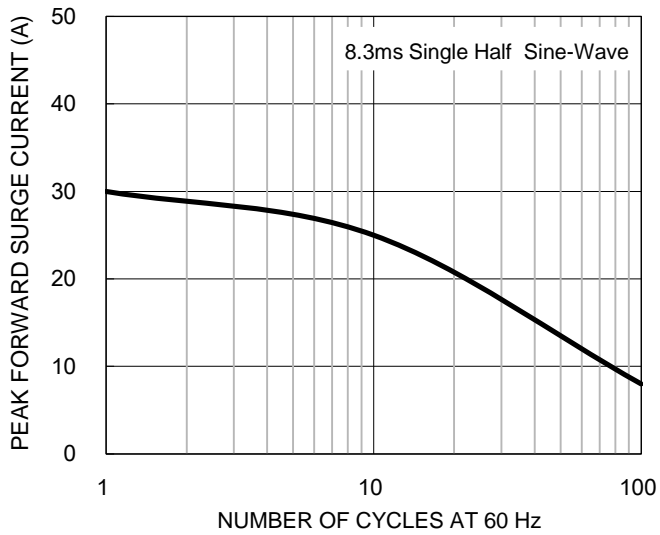
Fig.4 Typical Forward Characteristics



CHARACTERISTICS CURVES

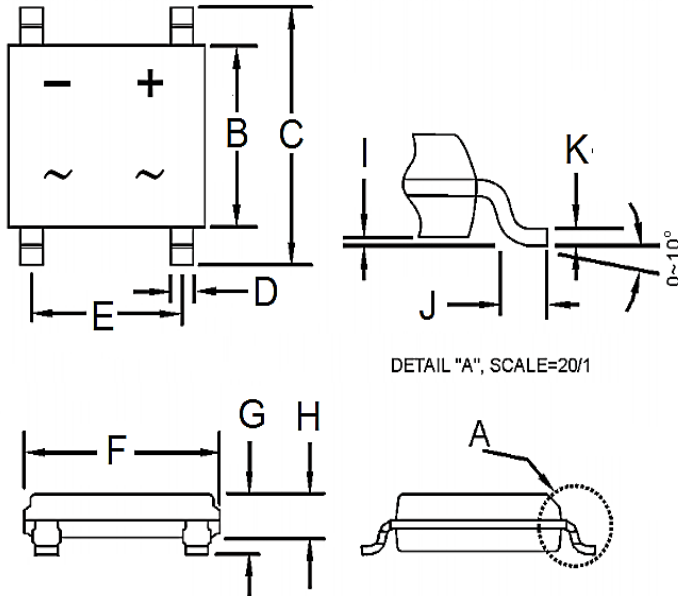
($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig.5 Maximum Non-repetitive Forward Surge Current



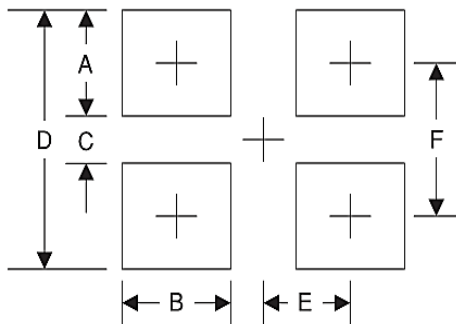
PACKAGE OUTLINE DIMENSIONS

ABS



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|------|-------------|-------|
| | Min. | Max. | Min. | Max. |
| B | 4.30 | 4.50 | 0.169 | 0.177 |
| C | 6.25 | 6.65 | 0.246 | 0.262 |
| D | 0.60 | 0.70 | 0.024 | 0.028 |
| E | 3.90 | 4.10 | 0.154 | 0.161 |
| F | 4.90 | 5.10 | 0.193 | 0.200 |
| G | 1.40 | 1.60 | 0.055 | 0.063 |
| H | 1.35 | 1.45 | 0.053 | 0.057 |
| I | 0.05 | 0.15 | 0.002 | 0.006 |
| J | 0.30 | 0.70 | 0.012 | 0.028 |
| K | 0.15 | 0.25 | 0.006 | 0.010 |

SUGGESTED PAD LAYOUT



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A | 1.5 | 0.059 |
| B | 0.9 | 0.035 |
| C | 4.22 | 0.166 |
| D | 7.22 | 0.284 |
| E | 2.05 | 0.081 |
| F | 5.72 | 0.225 |

MARKING DIAGRAM



P/N = Marking Code
 YW = Date Code
 F = Factory Code

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