

2A, 1000V Fast Recovery Bridge Rectifier

FEATURES

- Glass passivated chip junction
- Ideal for automated placement
- High surge current capability
- UL Recognized file # E-326854
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free

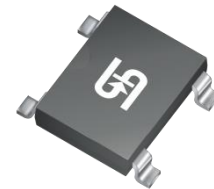
APPLICATIONS

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

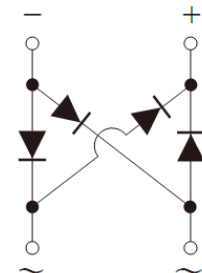
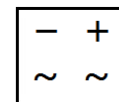
MECHANICAL DATA

- Case: ABS
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1 whisker test
- Polarity: As marked
- Weight: 0.096g (approximately)

| KEY PARAMETERS | | |
|----------------|-------|------|
| PARAMETER | VALUE | UNIT |
| I_F | 2 | A |
| V_{RRM} | 1000 | V |
| I_{FSM} | 50 | A |
| $T_{J\ MAX}$ | 150 | °C |
| Package | ABS | |
| Configuration | Quad | |



ABS



| ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | |
|--|--------------------|-------------|----------------------|
| PARAMETER | SYMBOL | RABS20M | UNIT |
| Marking code on the device | | RA20M | |
| Repetitive peak reverse voltage | V_{RRM} | 1000 | V |
| Reverse voltage, total rms value | $V_{R(RMS)}$ | 700 | V |
| Forward current | I_F | 2 | A |
| Surge peak forward current, single half sine-wave superimposed on rated load per diode | $t = 8.3\text{ms}$ | 50 | A |
| | $t = 1.0\text{ms}$ | 120 | A |
| Rating for fusing ($t < 8.3\text{ms}$) | I^2t | 10 | A^2s |
| Junction temperature | T_J | -55 to +150 | °C |
| Storage temperature | T_{STG} | -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 | $R_{\theta JA}$ | 48 | °C/W |
| Junction-to-case thermal resistance | $R_{\theta JC}$ | 6 | °C/W |

Thermal Performance Note: Units mounted on PCB (20mm x 20mm Cu pad test board)

| ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | | | |
|---|---|---------------|------------|------------|---------------|
| PARAMETER | CONDITIONS | SYMBOL | TYP | MAX | UNIT |
| Forward voltage per diode ⁽¹⁾ | $I_F = 1\text{A}, T_J = 25^\circ\text{C}$ | V_F | 1.06 | - | V |
| | $I_F = 2\text{A}, T_J = 25^\circ\text{C}$ | | 1.16 | 1.30 | V |
| | $I_F = 1\text{A}, T_J = 125^\circ\text{C}$ | | 0.89 | - | V |
| | $I_F = 2\text{A}, T_J = 125^\circ\text{C}$ | | 1.00 | 1.16 | V |
| Reverse current @ rated V_R per diode ⁽²⁾ | $T_J = 25^\circ\text{C}$ | I_R | - | 5 | μA |
| | $T_J = 125^\circ\text{C}$ | | - | 90 | μA |
| Junction capacitance per diode | 1MHz, $V_R = 4.0\text{V}$ | C_J | 15 | - | pF |
| Maximum reverse recovery time | $I_F = 0.5\text{A}, I_R = 1.0\text{A}$ $I_{rr} = 0.25\text{A}$ | t_{rr} | - | 300 | ns |

Notes:

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

| ORDERING INFORMATION | | |
|-----------------------------|----------------|---------------------|
| ORDERING CODE | PACKAGE | PACKING |
| RABS20M | ABS | 5,000 / Tape & Reel |

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

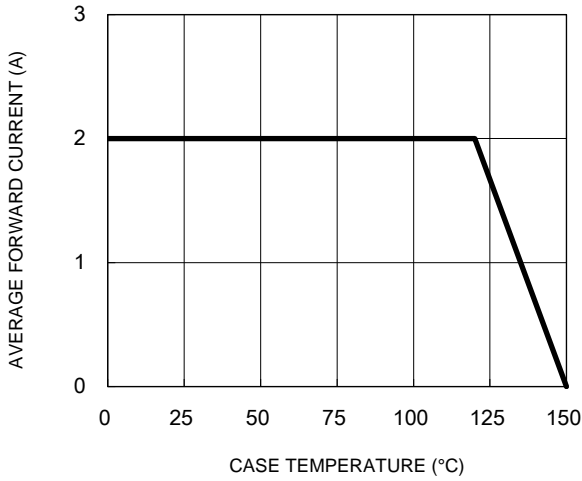


Fig.2 Typical Junction Capacitance

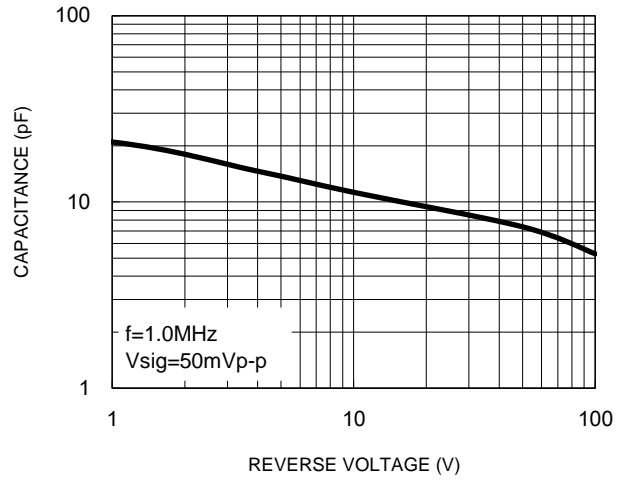


Fig.3 Typical Reverse Characteristics

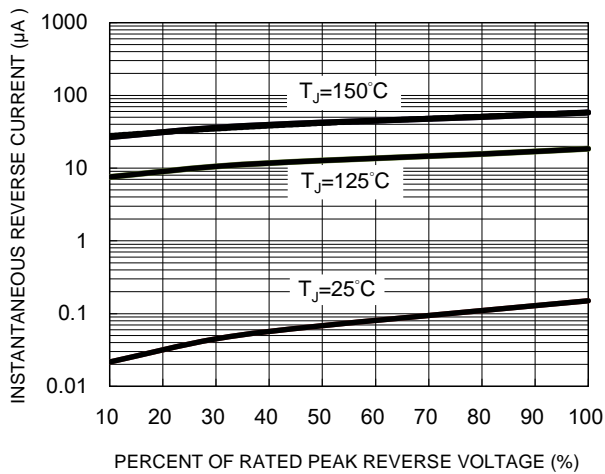
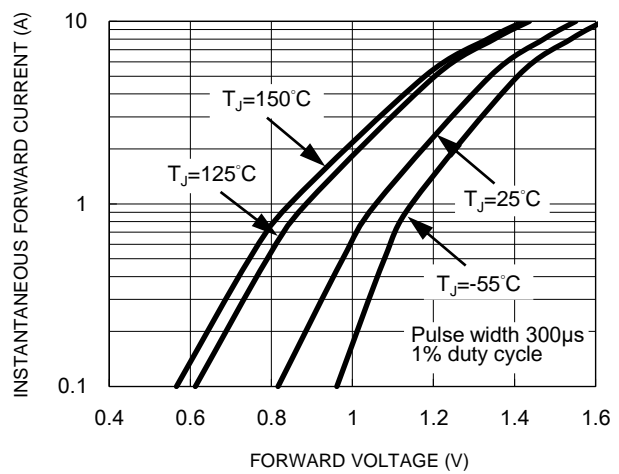
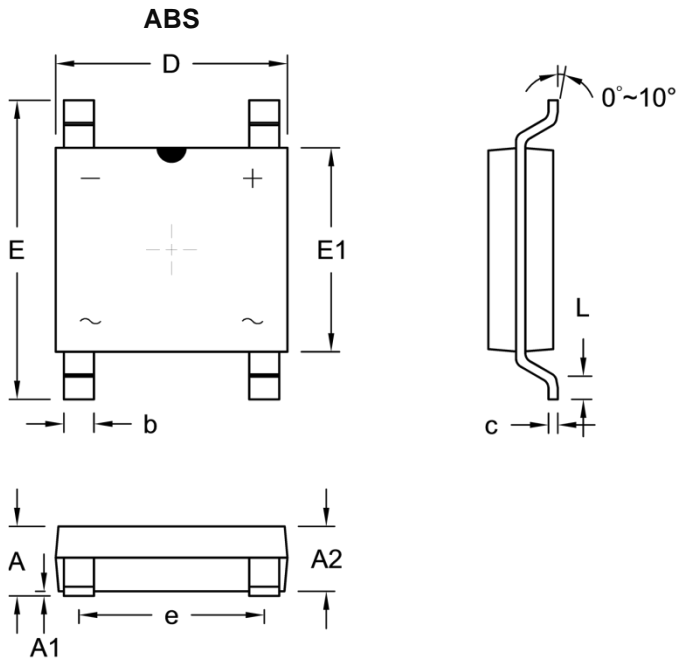


Fig.4 Typical Forward Characteristics

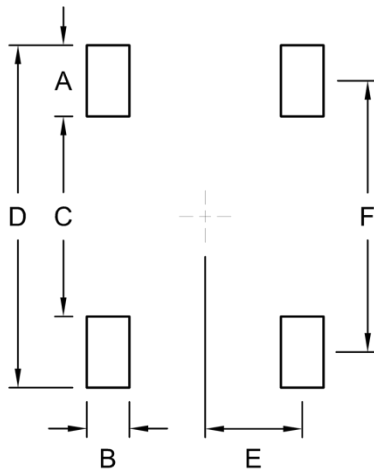


PACKAGE OUTLINE DIMENSIONS



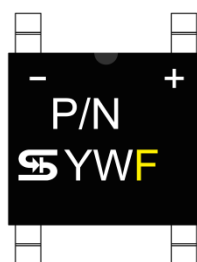
| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|------|-------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 1.40 | 1.60 | 0.055 | 0.063 |
| A1 | 0.05 | 0.15 | 0.002 | 0.006 |
| A2 | 1.35 | 1.45 | 0.053 | 0.057 |
| b | 0.60 | 0.70 | 0.024 | 0.028 |
| c | 0.15 | 0.25 | 0.006 | 0.010 |
| D | 4.90 | 5.10 | 0.193 | 0.201 |
| E | 6.25 | 6.65 | 0.246 | 0.262 |
| E1 | 4.30 | 4.50 | 0.169 | 0.177 |
| e | 3.90 | 4.10 | 0.154 | 0.161 |
| L | 0.30 | 0.70 | 0.012 | 0.028 |

SUGGESTED PAD LAYOUT



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A | 1.50 | 0.059 |
| B | 0.90 | 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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