

4A, 400V - 800V Glass Passivated Bridge Rectifier

FEATURES

- Glass passivated junction
- Ideal for printed circuit board
- High surge current capability
- UL Recognized File # E-326243
- RoHS Compliant

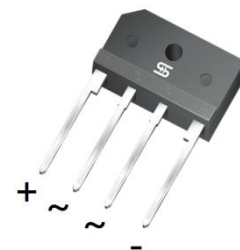
APPLICATIONS

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

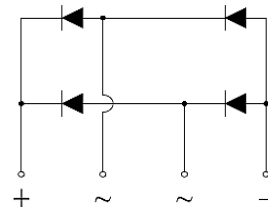
MECHANICAL DATA

- Case: TS4K
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Polarity: As marked
- Mounting torque: 0.92 N·m maximum
- Weight: 4.1 g (approximately)

| KEY PARAMETERS | | |
|----------------|-----------|------|
| PARAMETER | VALUE | UNIT |
| I_F | 4 | A |
| V_{RRM} | 400 - 800 | V |
| I_{FSM} | 120 | A |
| T_{JMAX} | 150 | °C |
| Package | TS4K | |
| Configuration | Quad | |



TS4K



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

| PARAMETER | SYMBOL | TS4K40-A | TS4K60-A | TS4K80-A | UNIT |
|---|--------------|--------------|----------|----------|----------------------|
| Marking code on the device | | TS4K40 | TS4K60 | TS4K80 | |
| Repetitive peak reverse voltage | V_{RRM} | 400 | 600 | 800 | V |
| Reverse voltage, total rms value | $V_{R(RMS)}$ | 280 | 420 | 560 | V |
| Forward current | I_F | 4 | | | A |
| Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load | I_{FSM} | 120 | | | A |
| Rating of fusing ($t < 8.3\text{ms}$) | I^2t | 60 | | | 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 | $R_{\theta JL}$ | 7 | °C/W |
| Junction-to-ambient thermal resistance | $R_{\theta JA}$ | 18 | °C/W |
| Junction-to-case thermal resistance | $R_{\theta JC}$ | 6 | °C/W |

Thermal Performance Note: Mounted on Heat sink Size of 2"x3"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⁾ | $I_F = 2\text{A}, T_J = 25^\circ\text{C}$ | V_F | - | 1.0 | V |
| | $I_F = 2\text{A}, T_J = 125^\circ\text{C}$ | | - | 0.9 | V |
| Reverse current @ rated V_R per diode ⁽²⁾ | $T_J = 25^\circ\text{C}$ | I_R | - | 10 | μA |
| | $T_J = 125^\circ\text{C}$ | | - | 500 | μA |
| Junction capacitance | 1 MHz, $V_R = 4.0\text{V}$ | C_J | 42 | - | pF |

Notes:

1. Pulse test with PW=0.3 ms
2. Pulse test with PW=30 ms

| ORDERING INFORMATION | | |
|-----------------------------|----------------|----------------|
| ORDERING CODE | PACKAGE | PACKING |
| TS4K40-A D3 | TS4K | 20 / TUBE |
| TS4K60-A D3 | TS4K | 20 / TUBE |
| TS4K80-A D3 | TS4K | 20 / TUBE |
| TS4K40-A D3G | TS4K | 20 / TUBE |
| TS4K60-A D3G | TS4K | 20 / TUBE |
| TS4K80-A D3G | TS4K | 20 / TUBE |

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

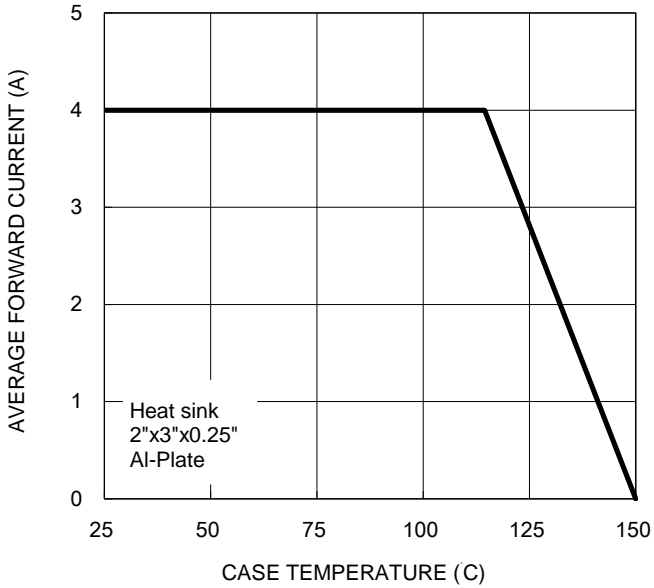


Fig.2 Typical Junction Capacitance

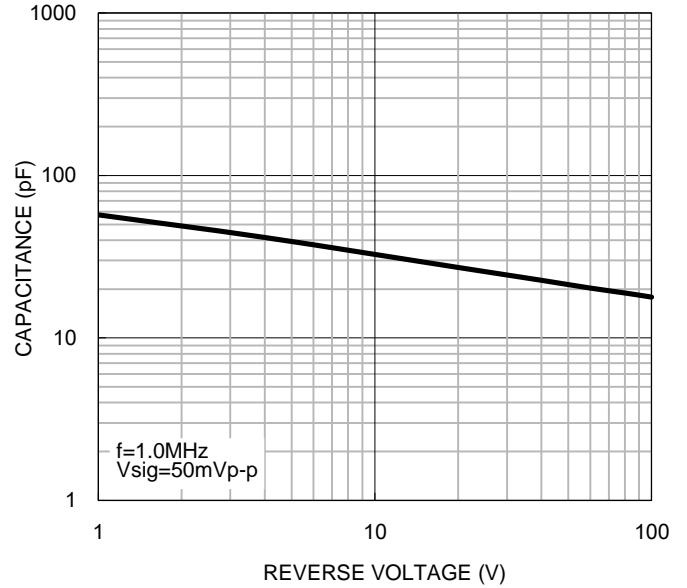


Fig.3 Typical Reverse Characteristics

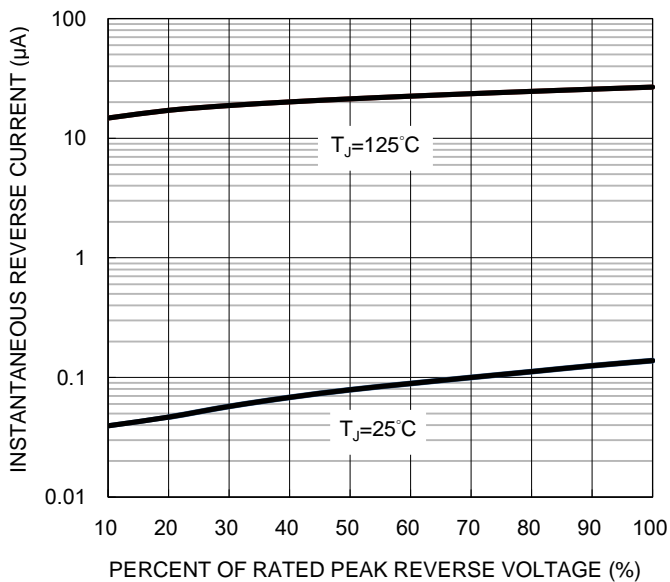
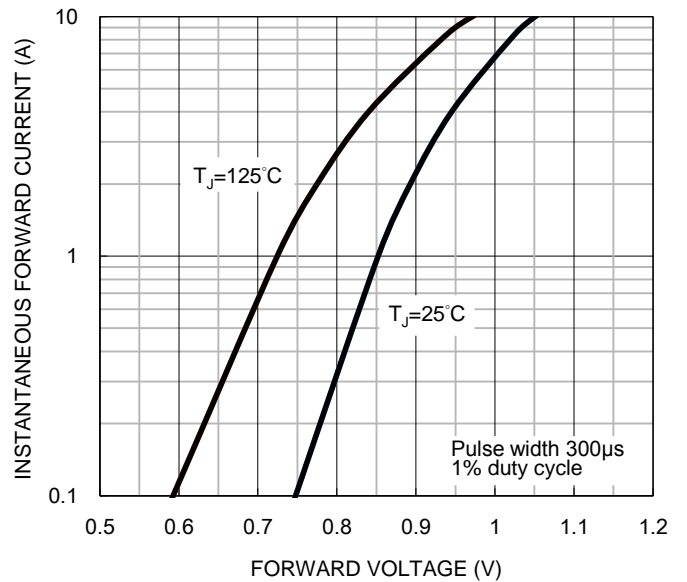
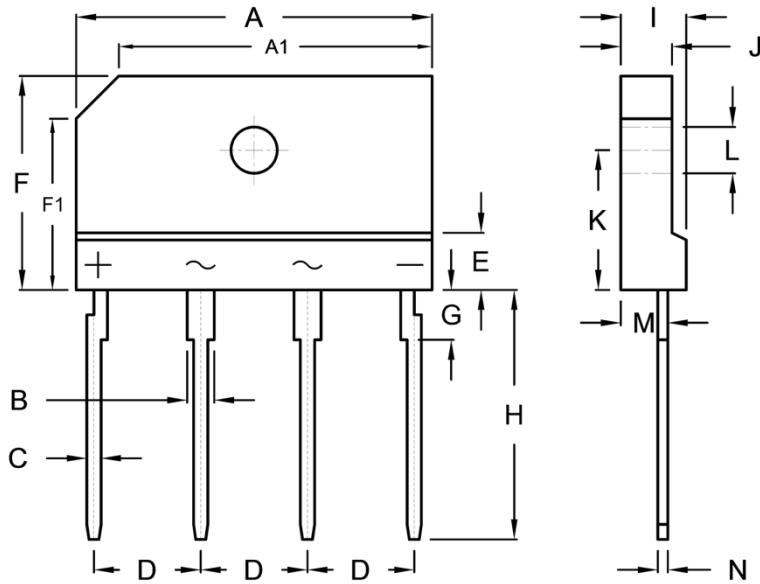


Fig.4 Typical Forward Characteristics



PACKAGE OUTLINE DIMENSIONS

TS4K



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|-------|-------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 24.70 | 25.30 | 0.972 | 0.996 |
| A1 | 21.50 | 22.50 | 0.846 | 0.886 |
| B | 1.70 | 2.10 | 0.067 | 0.083 |
| C | 0.90 | 1.10 | 0.035 | 0.043 |
| D | 7.30 | 7.70 | 0.287 | 0.303 |
| E | 3.80 | 4.20 | 0.150 | 0.165 |
| F | 14.70 | 15.30 | 0.579 | 0.602 |
| F1 | 11.50 | 12.50 | 0.453 | 0.492 |
| G | 3.30 | 3.70 | 0.130 | 0.146 |
| H | 17.00 | 18.00 | 0.669 | 0.709 |
| I | 4.40 | 4.80 | 0.173 | 0.189 |
| J | 3.40 | 3.80 | 0.134 | 0.150 |
| K | 9.50 | 10.10 | 0.374 | 0.398 |
| L | 3.10 | 3.40 | 0.122 | 0.134 |
| M | 3.20 | 3.40 | 0.126 | 0.134 |
| N | 0.60 | 0.80 | 0.024 | 0.031 |

MARKING DIAGRAM



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