

25A, 50V - 1000V Standard Bridge Rectifier

FEATURES

- AEC-Q101 qualified available
- Glass passivated chip junction
- Ideal for printed circuit board
- Typical IR less than 0.1 μ A
- High surge current capability
- UL Recognized File # E-326243
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

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

MECHANICAL DATA

- Case: TS-6P
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Mounting torque: 0.92 N·m maximum
- Polarity: As marked
- Weight: 7.15g (approximately)

| KEY PARAMETERS | | |
|----------------|-----------|--------------|
| PARAMETER | VALUE | UNIT |
| I_F | 25 | A |
| V_{RRM} | 50 - 1000 | V |
| I_{FSM} | 350 | A |
| $T_{J\ MAX}$ | 150 | $^{\circ}$ C |
| Package | TS-6P | |
| Configuration | Quad | |



TS-6P



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

| PARAMETER | SYMBOL | TS25P | TS25P | TS25P | TS25P | TS25P | TS25P | TS25P | UNIT |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------------------|
| | | 01G | 02G | 03G | 04G | 05G | 06G | 07G | |
| Marking code on the device | | TS25P 01G | TS25P 02G | TS25P 03G | TS25P 04G | TS25P 05G | TS25P 06G | TS25P 07G | |
| Repetitive peak reverse voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Reverse voltage, total rms value | $V_{R(RMS)}$ | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Forward current | I_F | 25 | | | | | | | A |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load | I_{FSM} | 350 | | | | | | | A |
| Rating of fusing ($t < 8.3ms$) | I^2t | 508.37 | | | | | | | A ² s |
| Junction temperature | T_J | - 55 to +150 | | | | | | | $^{\circ}$ C |
| Storage temperature | T_{STG} | - 55 to +150 | | | | | | | $^{\circ}$ C |

THERMAL PERFORMANCE

| PARAMETER | SYMBOL | TYP | UNIT |
|-------------------------------------|-----------------|-----|------|
| Junction-to-case thermal resistance | $R_{\theta JC}$ | 0.6 | °C/W |

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

| PARAMETER | CONDITIONS | SYMBOL | TYP | MAX | UNIT |
|--|--|--------|-----|-----|---------------|
| Forward voltage per diode ⁽¹⁾ | $I_F = 12.5\text{A}, T_J = 25^\circ\text{C}$ | V_F | - | 1.0 | V |
| | $I_F = 25.0\text{A}, T_J = 25^\circ\text{C}$ | | - | 1.1 | 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 |

Notes:

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

ORDERING INFORMATION

| ORDERING CODE ⁽¹⁾⁽²⁾ | PACKAGE | PACKING |
|---------------------------------|---------|-----------|
| TS25PxG | TS-6P | 15 / Tube |
| TS25PxGH | TS-6P | 15 / Tube |

Notes:

1. "x" defines voltage from 50V(TS25P01G) to 1000V(TS25P07G)
2. "H" means AEC-Q101 qualified

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

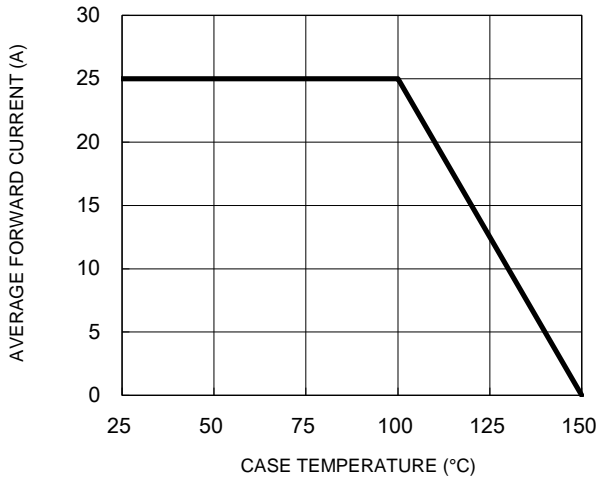


Fig.2 Typical Junction Capacitance

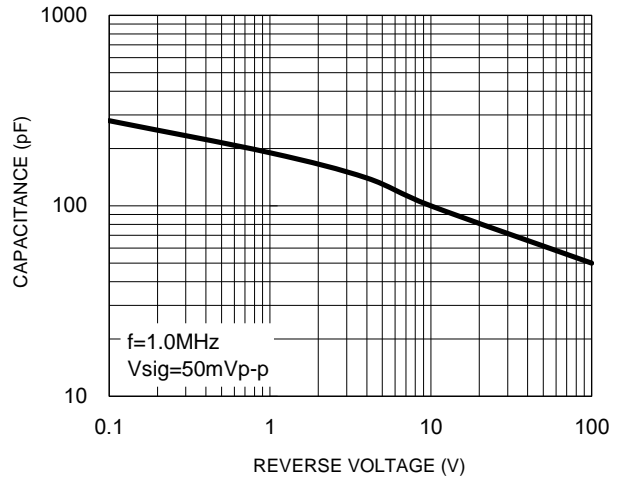


Fig.3 Typical Reverse Characteristics

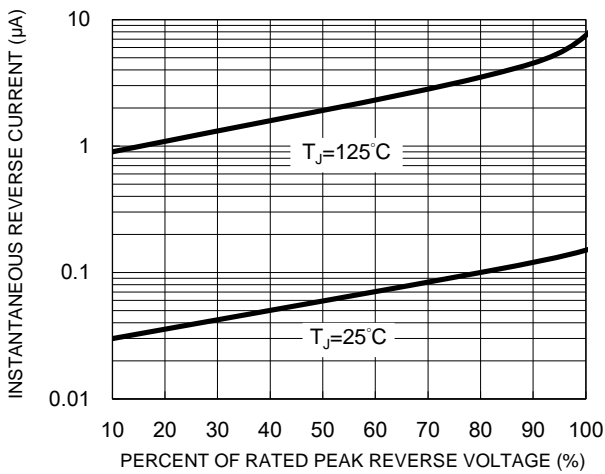


Fig.4 Typical Forward Characteristics

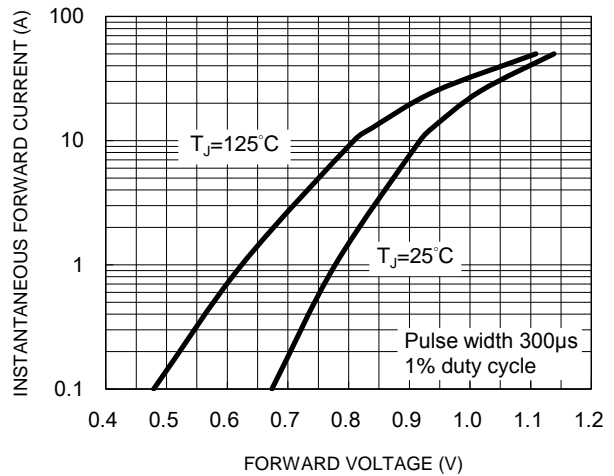
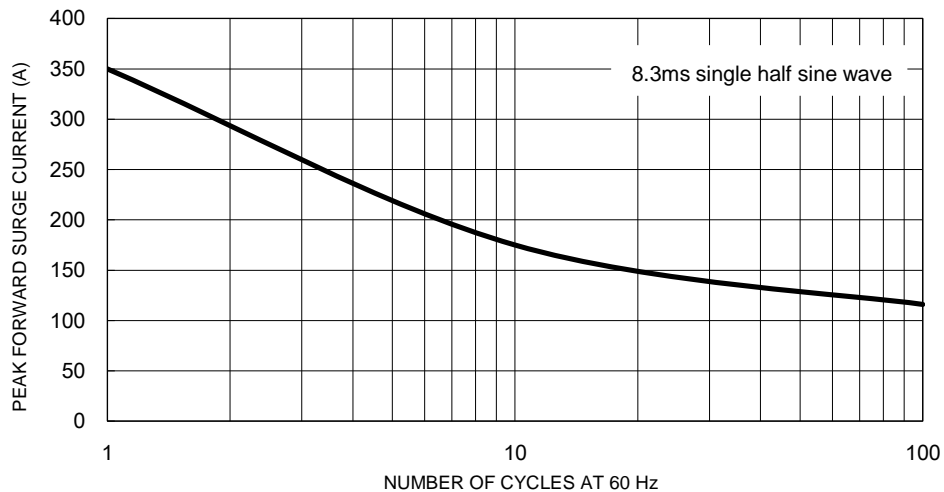
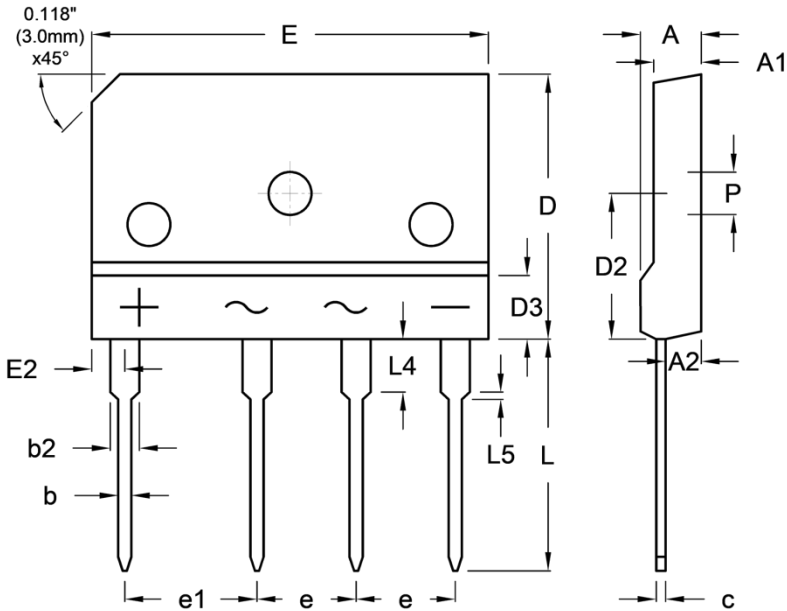


Fig.5 Maximum Non-Repetitive Forward Surge Current



PACKAGE OUTLINE DIMENSIONS

TS-6P



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|-------|-------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 4.40 | 4.80 | 0.173 | 0.189 |
| A1 | 3.40 | 3.80 | 0.134 | 0.150 |
| A2 | 2.50 | 2.90 | 0.098 | 0.114 |
| b | 0.90 | 1.10 | 0.035 | 0.043 |
| b2 | 2.00 | 2.40 | 0.079 | 0.094 |
| c | 0.65 | 0.75 | 0.026 | 0.030 |
| D | 19.70 | 20.30 | 0.776 | 0.799 |
| D2 | 10.80 | 11.20 | 0.425 | 0.441 |
| D3 | - | 4.80 | - | 0.189 |
| E | 29.70 | 30.30 | 1.169 | 1.193 |
| E2 | 2.30 | 2.70 | 0.091 | 0.106 |
| e | 7.30 | 7.70 | 0.287 | 0.303 |
| e1 | 9.80 | 10.20 | 0.386 | 0.402 |
| L | 17.00 | 18.00 | 0.669 | 0.709 |
| L4 | 3.80 | 4.20 | 0.150 | 0.165 |
| L5 | 0.45 | 0.65 | 0.018 | 0.026 |
| P | 3.10 | 3.40 | 0.122 | 0.134 |

MARKING DIAGRAM



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