

25A, 600V - 1000V Standard Bridge Rectifier

FEATURES

- Glass passivated chip junction
- Ideal for printed circuit board
- High surge current capability
- UL Recognized File # E-326243
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

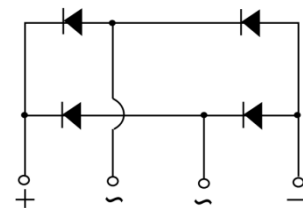
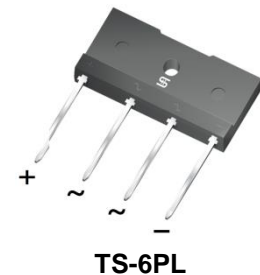
APPLICATIONS

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

MECHANICAL DATA

- Case: TS-6PL
- 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
- Mounting torque: 0.78 N·m maximum
- Polarity: As marked
- Weight: 4.40g (approximately)

| KEY PARAMETERS | | |
|----------------|------------|------|
| PARAMETER | VALUE | UNIT |
| I_F | 25 | A |
| V_{RRM} | 600 - 1000 | V |
| I_{FSM} | 312 | A |
| $T_{J\ MAX}$ | 150 | °C |
| Package | TS-6PL | |
| Configuration | Quad | |



| ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | | | |
|--|--------------------|--------------|------------|------------|----------------------|
| PARAMETER | SYMBOL | T25JA05G-K | T25JA06G-K | T25JA07G-K | UNIT |
| Marking code on the device | | T25JA05G | T25JA06G | T25JA07G | |
| 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 | 25 | | | A |
| Peak forward surge current, single half sine-wave superimposed on rated load | $t = 8.3\text{ms}$ | 312 | | | A |
| | $t = 1.0\text{ms}$ | 900 | | | A |
| Rating of fusing ($t < 8.3\text{ms}$) | I^2t | 404 | | | 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 | $R_{\theta JL}$ | 4 | °C/W |
| Junction-to-ambient thermal resistance | $R_{\theta JA}$ | 14 | °C/W |
| Junction-to-case thermal resistance | $R_{\theta JC}$ | 5 | °C/W |

Thermal Performance Note: Mounted on heat sink size of 4" x 6" x 0.25" Al-plate

| ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | | | |
|---|---|---------------|------------|------------|---------------|
| PARAMETER | CONDITIONS | SYMBOL | TYP | MAX | UNIT |
| Forward voltage per diode ⁽¹⁾ | $I_F = 12.5\text{A}, T_J = 25^\circ\text{C}$ | V_F | 0.93 | - | V |
| | $I_F = 25.0\text{A}, T_J = 25^\circ\text{C}$ | | 1.08 | 1.15 | V |
| | $I_F = 12.5\text{A}, T_J = 125^\circ\text{C}$ | | 0.86 | - | V |
| | $I_F = 25.0\text{A}, T_J = 125^\circ\text{C}$ | | 0.98 | 1.09 | V |
| Reverse current @ rated V_R per diode ⁽²⁾ | $T_J = 25^\circ\text{C}$ | I_R | - | 5 | μA |
| | $T_J = 125^\circ\text{C}$ | | - | 380 | μA |
| Junction capacitance per diode | 1MHz, $V_R = 4.0\text{V}$ | C_J | 92.3 | - | pF |

Notes:

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

| ORDERING INFORMATION | | |
|------------------------------------|----------------|----------------|
| ORDERING CODE⁽¹⁾ | PACKAGE | PACKING |
| T25JA0xG-K | TS-6PL | 15 / Tube |

Notes:

1. "x" defines voltage from 600V(T25JA05G-K) to 1000V(T25JA07G-K)

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

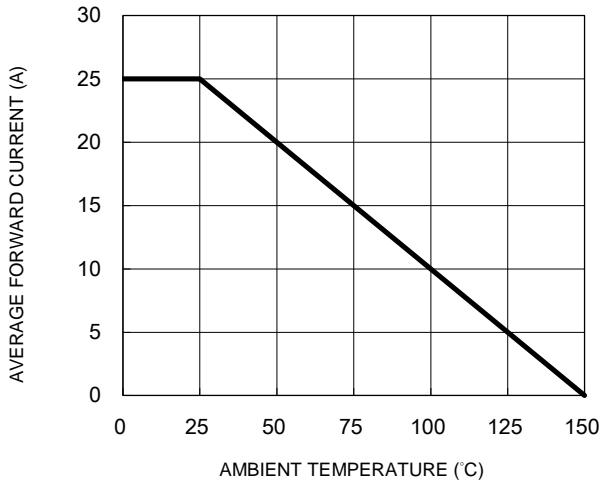


Fig.2 Typical Junction Capacitance

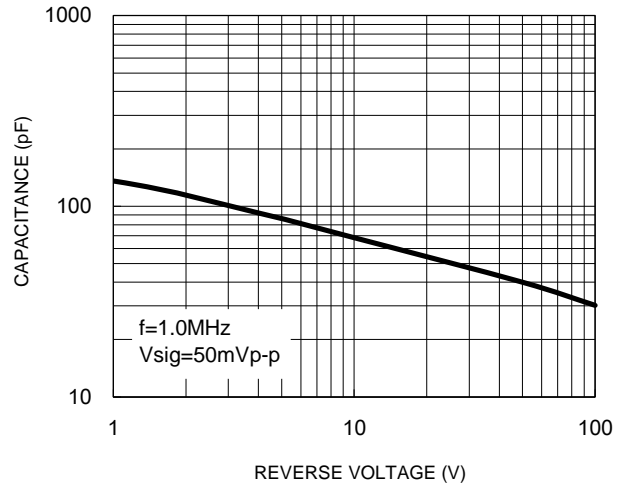


Fig.3 Typical Reverse Characteristics

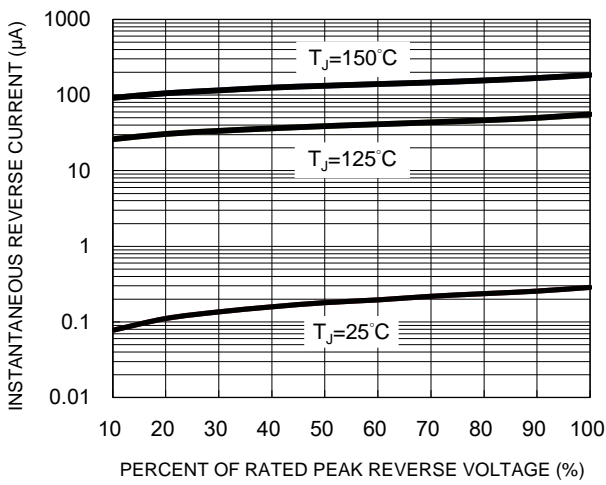
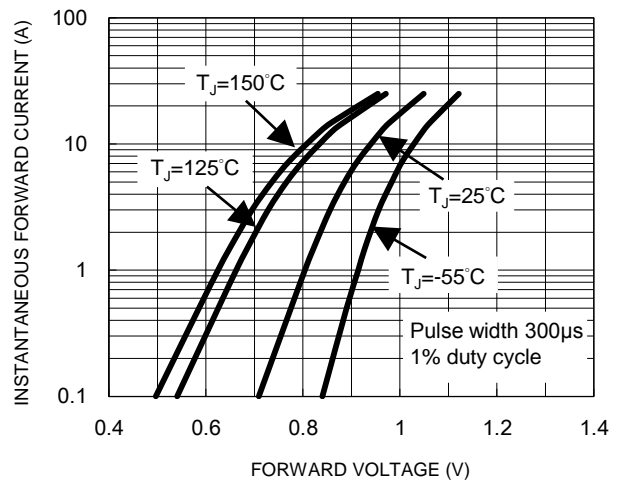
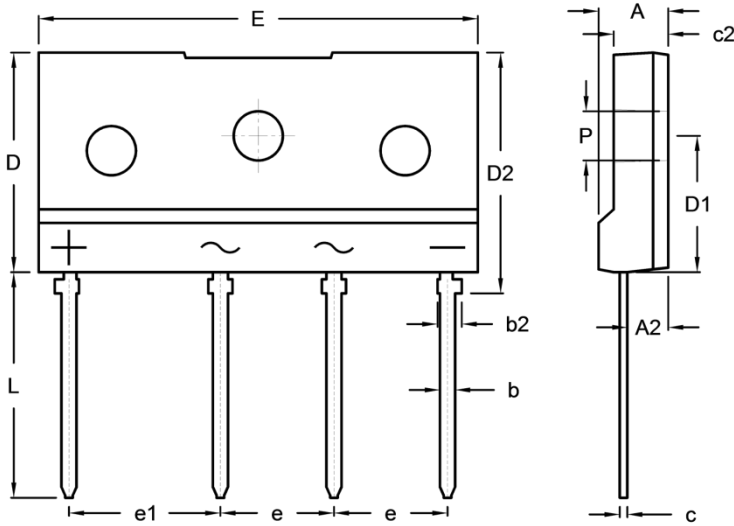


Fig.4 Typical Forward Characteristics



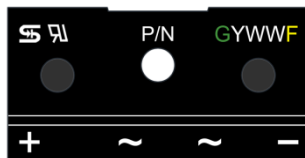
PACKAGE OUTLINE DIMENSIONS

TS-6PL



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|-------|-------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 4.30 | 4.90 | 0.169 | 0.193 |
| A2 | 2.50 | 2.90 | 0.098 | 0.114 |
| b | 0.90 | 1.10 | 0.035 | 0.043 |
| b2 | 1.50 | 1.70 | 0.059 | 0.067 |
| c | 0.40 | 0.60 | 0.016 | 0.024 |
| c2 | 3.30 | 3.90 | 0.130 | 0.154 |
| D | 14.20 | 14.80 | 0.559 | 0.583 |
| D1 | 8.70 | 9.30 | 0.343 | 0.366 |
| D2 | 15.60 | 16.20 | 0.614 | 0.638 |
| E | 28.70 | 29.30 | 1.130 | 1.154 |
| e | 7.30 | 7.70 | 0.287 | 0.303 |
| e1 | 9.80 | 10.20 | 0.386 | 0.402 |
| L | 14.60 | 15.20 | 0.575 | 0.598 |
| P | 3.10 | 3.40 | 0.122 | 0.134 |

MARKING DIAGRAM



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

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