

25A, 1000V Standard Rectifier

FEATURES

- AEC-Q101 qualified available
- Glass passivated chip junction
- High current capability, Low V_F
- High reliability
- High surge current capability
- Low power loss
- RoHS Compliant
- Halogen-free

APPLICATIONS

- DC to DC converter
- Switching mode converters and inverters
- General purpose

MECHANICAL DATA

- Case: P2500
- 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
- Polarity: As marked
- Weight: 1.90g (approximately)

| KEY PARAMETERS | | |
|----------------|------------|------|
| PARAMETER | VALUE | UNIT |
| I_F | 25 | A |
| V_{RRM} | 1000 | V |
| I_{FSM} | 650 | A |
| $T_{J\ MAX}$ | 175 | °C |
| Package | P2500 | |
| Configuration | Single die | |



P2500



| ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | |
|--|--------------|-------------|------------------|
| PARAMETER | SYMBOL | P2500M | UNIT |
| Marking code on the device | | P2500M | |
| Repetitive peak reverse voltage | V_{RRM} | 1000 | V |
| Reverse voltage, total rms value | $V_{R(RMS)}$ | 700 | V |
| Forward current | I_F | 25 | A |
| Surge peak forward current 10ms single half sine wave superimposed on rated load | I_{FSM} | 650 | A |
| Rating for fusing, $t < 10\text{ms}$ | I^2t | 2100 | A ² s |
| Junction temperature | T_J | -55 to +175 | °C |
| Storage temperature | T_{STG} | -55 to +175 | °C |

| THERMAL PERFORMANCE | | | |
|-------------------------------------|------------------|--------------------|-------------|
| PARAMETER | SYMBOL | TYP | UNIT |
| Junction-to-lead thermal resistance | R _{θJL} | 0.8 ⁽¹⁾ | °C/W |
| | | 6.0 ⁽²⁾ | °C/W |

Notes:

1. Thermal resistance from junction to lead/terminal at a distance 0 mm from case.
2. Mount on Heat sink size of 4in x 6in x 0.25in Al-Plate

| ELECTRICAL SPECIFICATIONS (T _A = 25°C unless otherwise noted) | | | | | |
|---|--|----------------|------------|------------|-------------|
| PARAMETER | CONDITIONS | SYMBOL | TYP | MAX | UNIT |
| Forward voltage ⁽¹⁾ | I _F = 5A, T _J = 25°C | V _F | - | 0.87 | V |
| Reverse current @ rated V _R ⁽²⁾ | T _J = 25°C | I _R | - | 5 | μA |

Notes:

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

| ORDERING INFORMATION | | |
|-----------------------------|----------------|-------------------|
| ORDERING CODE | PACKAGE | PACKING |
| P2500M | P2500 | 800 / Tape & Reel |
| P2500M A0G | P2500 | 500 / Ammo box |
| P2500MH | P2500 | 800 / Tape & Reel |
| P2500MHA0G | P2500 | 500 / Ammo box |

Notes:

1. "H" means ACE-Q101 qualified

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

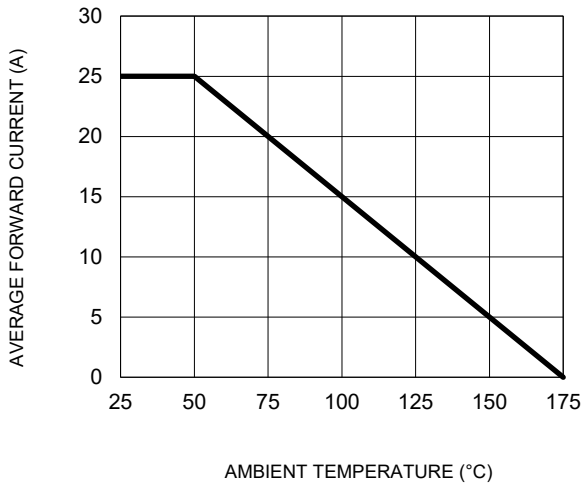


Fig.2 Typical Junction Capacitance

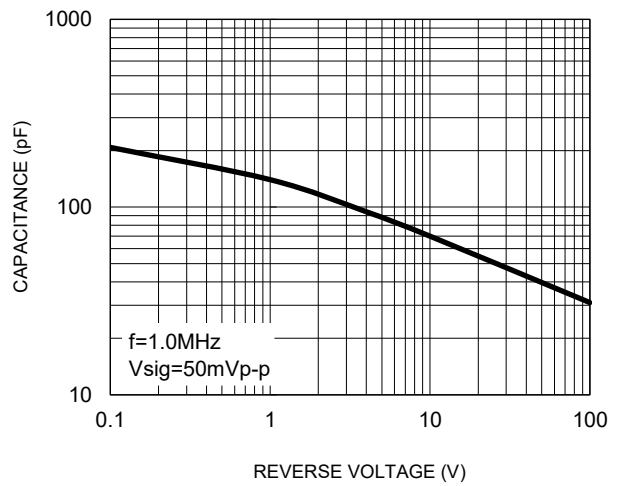


Fig.3 Typical Reverse Characteristics

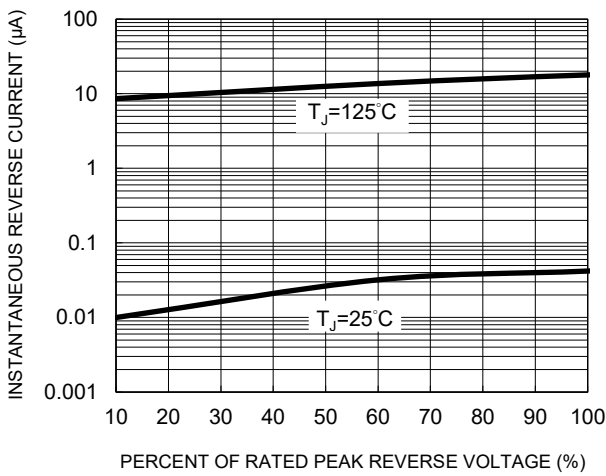


Fig.4 Typical Forward Characteristics

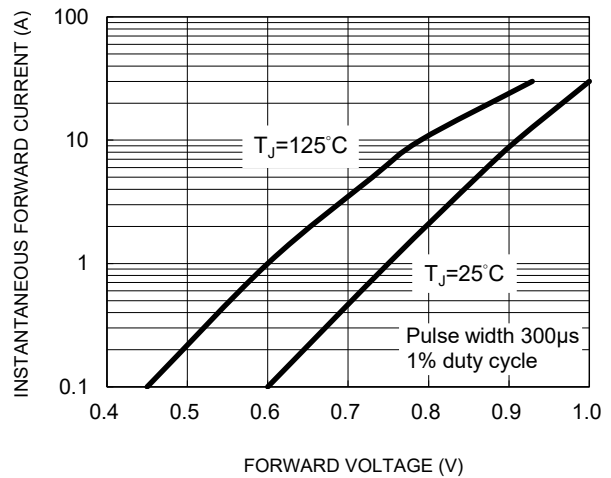
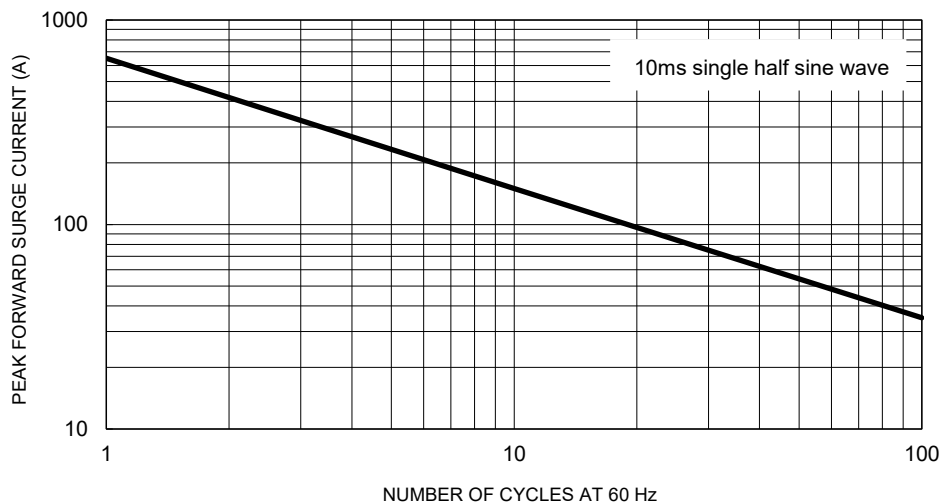
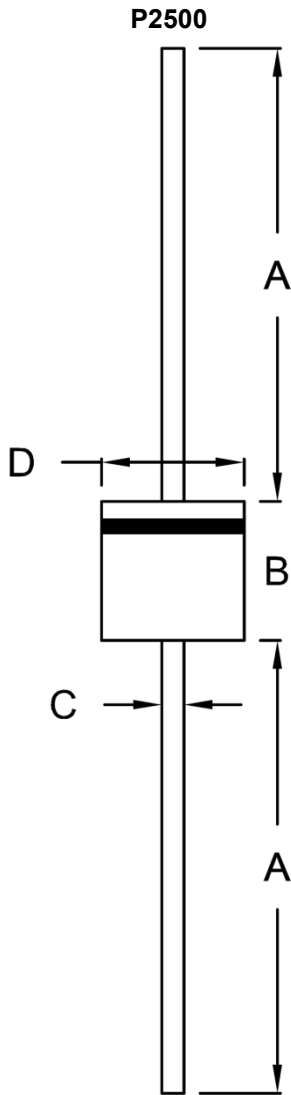


Fig.5 Maximum Non-Repetitive Forward Surge Current



PACKAGE OUTLINE DIMENSIONS



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|------|-------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 25.40 | - | 1.000 | - |
| B | 7.55 | 8.05 | 0.297 | 0.317 |
| C | 1.20 | 1.30 | 0.047 | 0.051 |
| D | 7.80 | 8.20 | 0.307 | 0.323 |

MARKING DIAGRAM



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

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