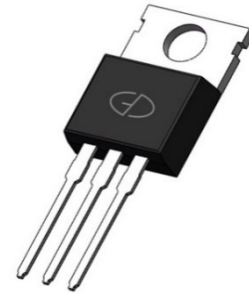


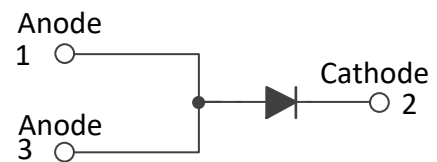
40A,250V Schottky Barrier Rectifier

Features

- Low forward voltage, low power loss
- Low leakage current
- High surge current
- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21
- AEC-Q101 qualified available



TO-220AB



Applications

- SMPS
- Inverter
- Server Power

Mechanical Data

- Case: Epoxy, Molded
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 sec
- Shipped 50 units per plastic tube

Maximum Ratings & Electrical Characteristics (TA=25°C unless otherwise noted)

| Parameter | Symbol | AMBR40250S | Unit |
|--|--------|-------------|------|
| Maximum repetitive peak reverse voltage | VRRM | 250 | V |
| Maximum RMS voltage | VRMS | 175 | V |
| Maximum DC blocking voltage | VDC | 250 | V |
| Maximum average forward | IF(AV) | 40 | A |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load | IFSM | 180 | A |
| Operating junction temperature range | TJ | -55 to +150 | °C |
| Storage temperature range | TSTG | -55 to +150 | °C |

| Electrical Specifications (T _A =25°C unless otherwise noted) | | | | | |
|---|-----------------|---|------|------|------|
| Parameter | Symbol | Test Conditions | Typ | Max | Unit |
| Forward drop voltage (Note1) | V _F | I _F =20A, T _J =25°C | 0.83 | 0.9 | V |
| | | I _F =20A, T _J =125°C | 0.69 | 0.77 | |
| | | I _F =40A, T _J =25°C | 0.92 | - | |
| | | I _F =40A, T _J =125°C | 0.80 | - | |
| Reverse leakage current @V _R (Note2) | I _R | T _J =25°C | - | 100 | uA |
| | | T _J =100°C | - | 10 | mA |
| Reverse recovery time | t _{rr} | I _F =0.5A, I _R =1.0A, I _{RR} =0.25A | - | 35 | ns |

| Thermal-Mechanical Specifications (T _A =25°C unless otherwise noted) | | | |
|---|------------------|------|------|
| Parameter | Symbol | Typ | Unit |
| Thermal Resistance, Junction to Case | R _{θJC} | 2.0 | °C/W |
| Thermal Resistance, Junction to Ambient | R _{θJA} | 62.5 | °C/W |

Note:

1. Pulse test with PW=0.3ms, duty cycle=2%
2. Pulse test with PW=30ms

Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

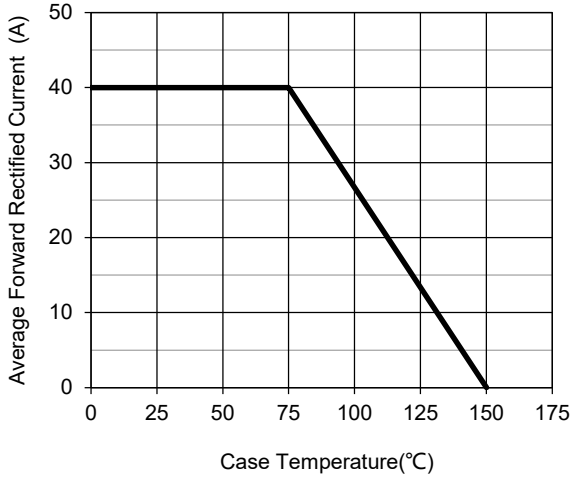


Fig.1 – Forward Current Derating Curve

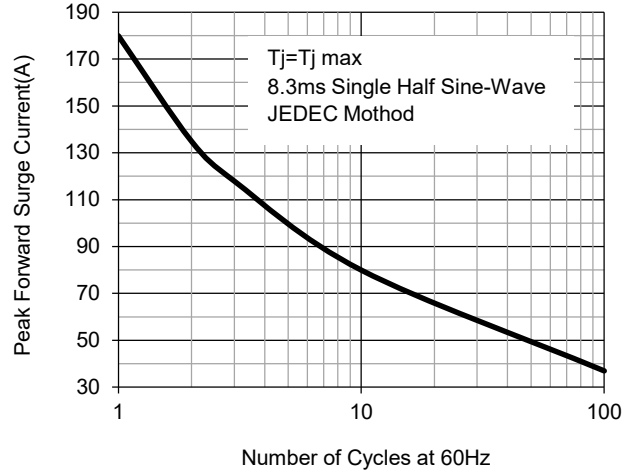


Fig.2 – Maximum Non-Repetitive Surge Current

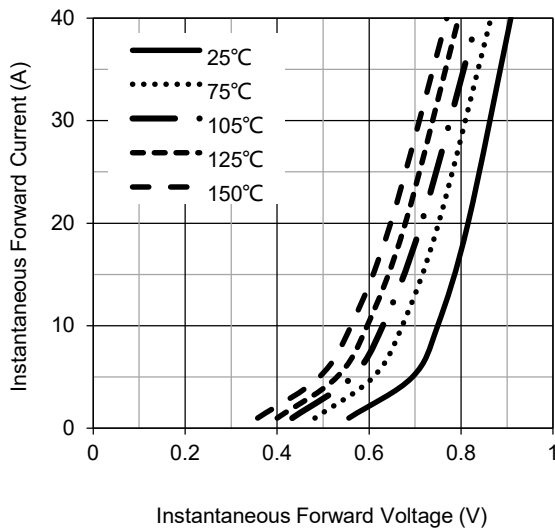


Fig.3 – Typical Forward Voltage Characteristics

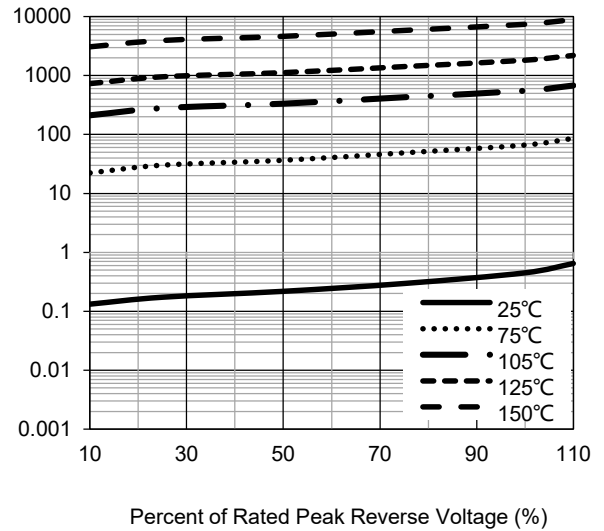


Fig.4 – Typical Reverse Current Characteristics

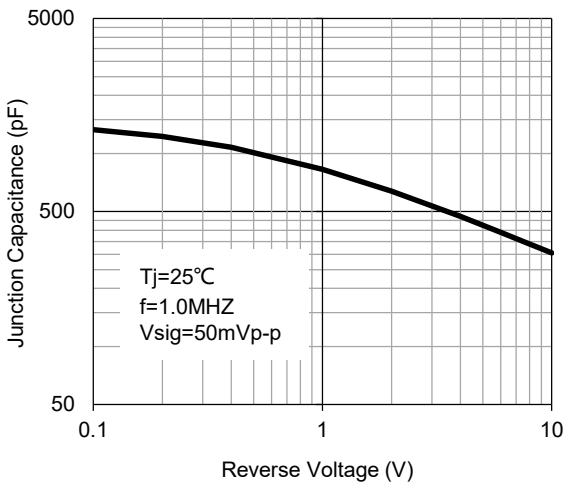
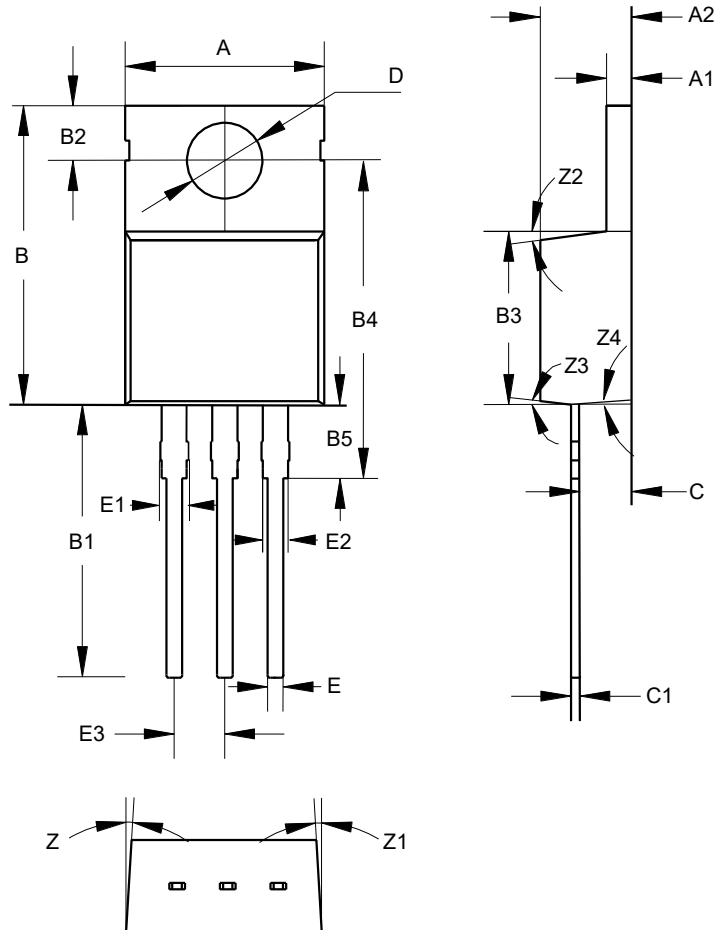


Fig.5 – Typical Junction Capacitance

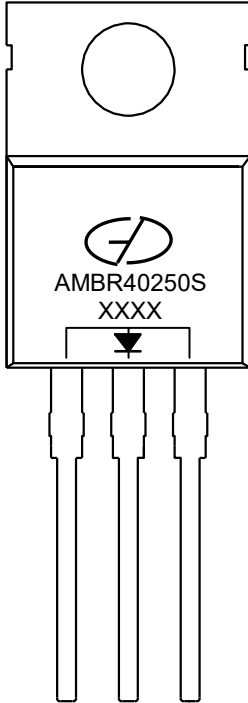
Package Outline Dimensions (Unit: millimeters)



TO-220AB



| TO-220AB | | | | | | | |
|----------|------|------|------|----|------|------|------|
| | Min. | Nom. | Max. | | Min. | Nom. | Max. |
| A | 9.8 | 10 | 10.2 | D | 3.7 | 3.8 | 3.9 |
| A1 | 1.17 | 1.27 | 1.37 | E | 0.68 | 0.78 | 0.88 |
| A2 | 4.5 | 4.6 | 4.7 | E1 | 1.2 | 1.4 | 1.6 |
| B | 14.5 | 15 | 15.5 | E2 | 1.17 | 1.27 | 1.37 |
| B1 | 13.2 | 13.7 | 14.2 | E3 | 2.44 | 2.54 | 2.64 |
| B2 | 2.65 | 2.75 | 2.85 | Z | | 3° | |
| B3 | 8.5 | 8.7 | 8.9 | Z1 | | 3° | |
| B4 | 15.5 | 16 | 16.5 | Z2 | | 7° | |
| B5 | 3.4 | 3.7 | 4.0 | Z3 | | 7° | |
| C | 2.3 | 2.6 | 2.9 | Z4 | | 1.5° | |
| C1 | 0.28 | 0.38 | 0.48 | | | | |

Marking Outline



1. Logo Mark: 
2. Part Name: AMBR40250S
3. Date Code: XXXX
4. Polarity : 

Revision History

| Document Version | Date of release | Description of changes |
|------------------|-----------------|------------------------|
| Rev.A | 2021.06.09 | Preliminary Datasheet |
| Rev.B | 2021.12.30 | Released Datasheet |
| | | |

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