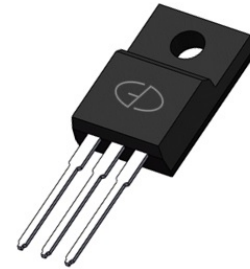


40A,250V Schottky Barrier Rectifier

Features

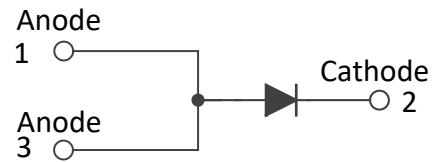
- Low forward voltage, low power loss
- Low leakage current
- High surge current
- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21



ITO-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 (T_A=25°C unless otherwise noted)

| Parameter | Symbol | MBRF40250S | Unit |
|--|--------------------|-------------|------|
| Maximum repetitive peak reverse voltage | V _{RRM} | 250 | V |
| Maximum RMS voltage | V _{RMS} | 175 | V |
| Maximum DC blocking voltage | V _{DC} | 250 | V |
| Maximum average forward | I _{F(AV)} | 40 | A |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode | I _{FSM} | 180 | A |
| Operating junction temperature range | T _J | -55 to +150 | °C |
| Storage temperature range | T _{STG} | -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 |

| Thermal-Mechanical Specifications (T _A =25°C unless otherwise noted) | | | |
|---|------------------|------|------|
| Parameter | Symbol | Typ | Unit |
| Thermal Resistance, Junction to Case | R _{θJC} | 4.0 | °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)

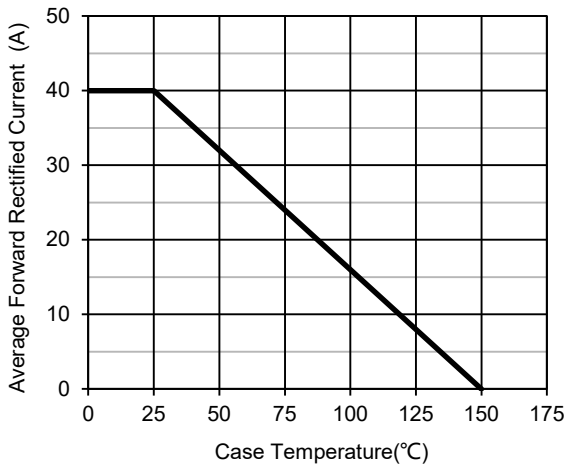


Fig.1 – Forward Current Derating Curve

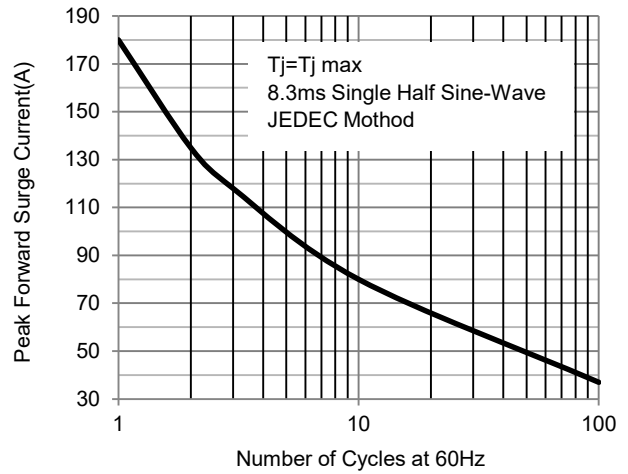


Fig.2 – Maximum Non-Repetitive Surge Current

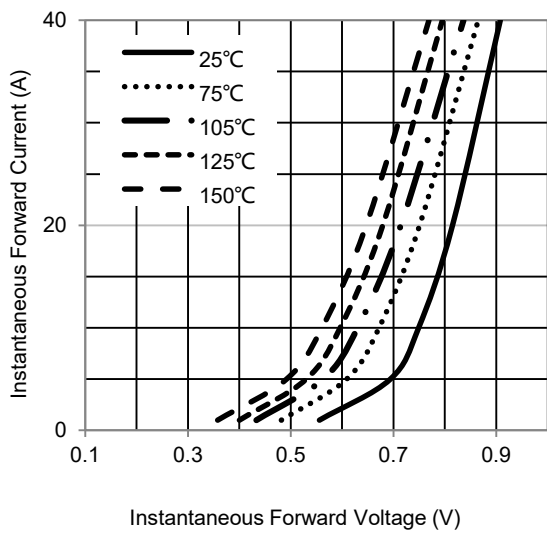


Fig.3 – Typical Forward Voltage Characteristics

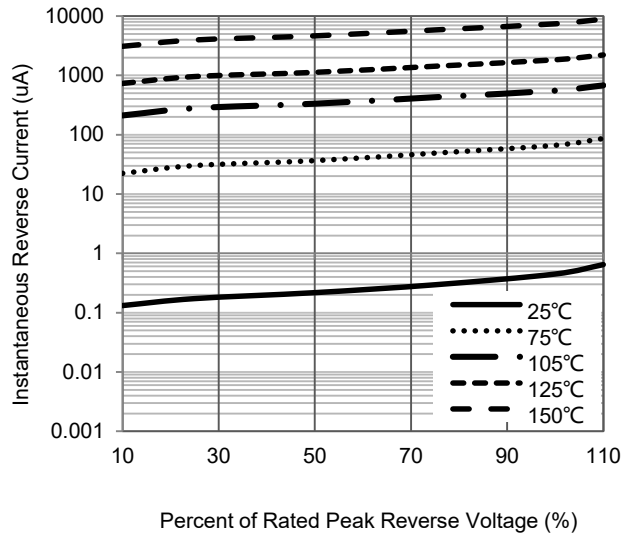


Fig.4 – Typical Reverse Current Characteristics

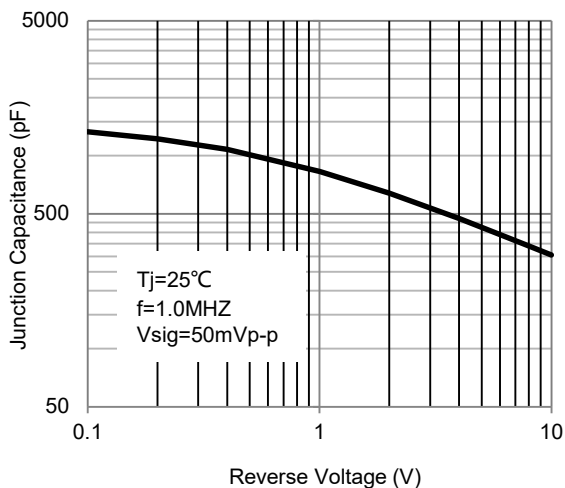
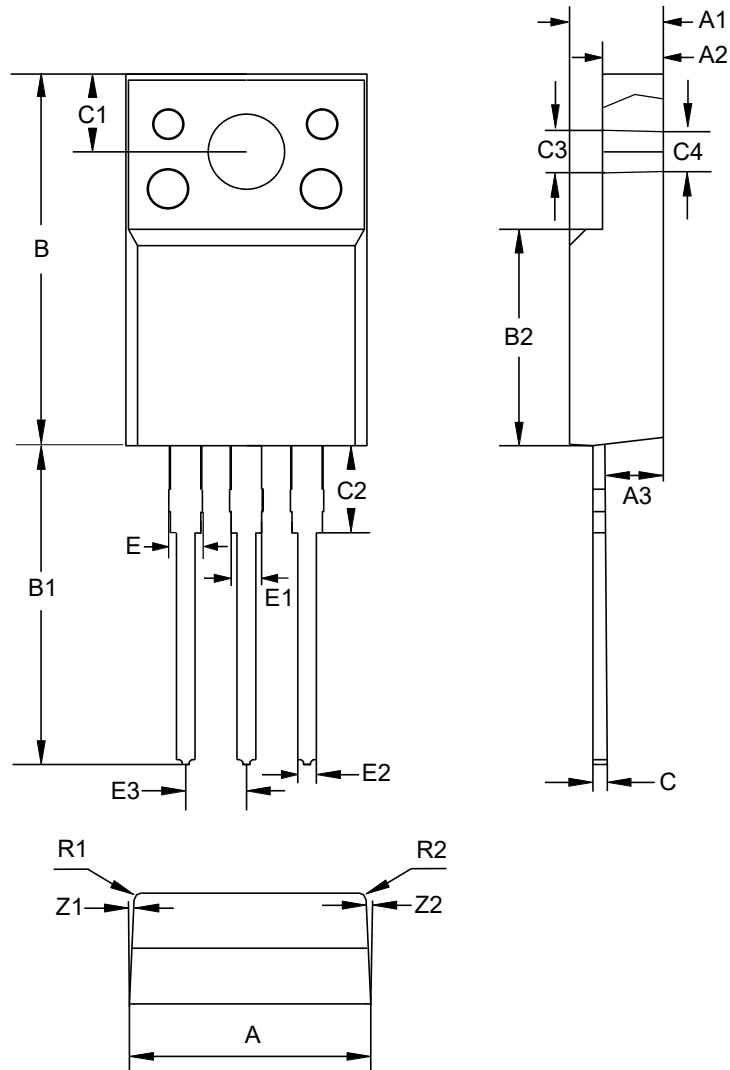


Fig.5 – Typical Junction Capacitance

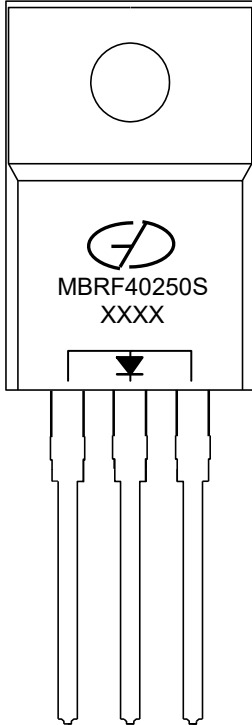
Package Outline Dimensions (Unit: millimeters)



ITO-220AB



| ITO-220AB | | | | | | | |
|-----------|-------|-------|-------|----|------|------|------|
| | Min. | Nom. | Max. | | Min. | Nom. | Max. |
| A | 9.9 | 10.1 | 10.3 | C3 | 3.0 | 3.2 | 3.4 |
| A1 | 4.6 | 4.7 | 4.8 | C4 | 3.0 | | |
| A2 | 2.44 | 2.54 | 2.64 | E | 1.15 | 1.35 | 1.55 |
| A3 | 2.25 | 2.45 | 2.65 | E1 | 1.17 | 1.27 | 1.37 |
| B | 15.5 | 15.8 | 16.1 | E2 | 0.7 | 0.8 | 0.9 |
| B1 | 13.25 | 13.55 | 13.85 | E3 | 2.44 | 2.54 | 2.64 |
| B2 | 9.0 | 9.2 | 9.4 | R1 | | 0.3 | |
| C | 0.5 | 0.6 | 0.7 | R2 | | 0.3 | |
| C1 | 3.1 | 3.3 | 3.5 | Z1 | | 3° | |
| C2 | 3.0 | 3.3 | 3.6 | Z2 | | 3° | |

Marking Outline



1. Logo Mark: 
2. Part Name: MBRF40250S
3. Date Code: XXXX
4. Polarity : 

Revision History

| Document Version | Date of release | Description of changes |
|------------------|-----------------|------------------------|
| Rev.A | 2021.10.15 | Preliminary Datasheet |
| | | |
| | | |

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