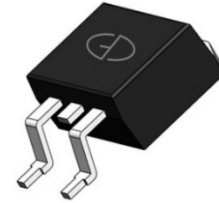


10A,800V Ultrafast Recovery Rectifier

Features

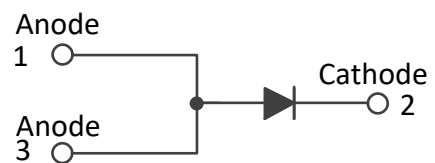
- FRED Wafer Construction
- Low forward drop voltage, low power loss
- High Surge Current Capability
- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21



TO-263AB(D²PAK)

Applications

- SMPS
- Adapter
- 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 or tape reel packing 800/reel

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

| Parameter | Symbol | MURB1080S | Unit |
|--|--------------------|-------------|------|
| Maximum repetitive peak reverse voltage | V _{RRM} | 800 | V |
| Working peak reverse voltage | V _{RWM} | 800 | V |
| Maximum DC blocking voltage | V _{DC} | 800 | V |
| Maximum average forward rectified current | I _{F(AV)} | 10 | A |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load | I _{FSM} | 80 | A |
| Voltage rate of change (rated V _R) | dv/dt | 10000 | V/μS |
| Operating junction temperature range | T _J | -55 to +150 | °C |
| Storage temperature range | T _{STG} | -55 to +150 | °C |

| Electrical Specifications ($T_A=25^{\circ}\text{C}$ unless otherwise noted) | | | | | |
|---|----------|--|------|------|---------------|
| Parameter | Symbol | Test Conditions | Typ | Max | Unit |
| Forward drop voltage ^(Note1) | V_F | $I_F=10\text{A}, T_J=25^{\circ}\text{C}$ | 1.85 | 2.20 | V |
| | | $I_F=10\text{A}, T_J=125^{\circ}\text{C}$ | - | 2.05 | |
| Reverse leakage current @ V_R ^(Note2) | I_R | $T_J=25^{\circ}\text{C}$ | - | 10 | μA |
| | | $T_J=100^{\circ}\text{C}$ | - | 500 | |
| Reverse recovery time | t_{rr} | $I_F=0.5\text{A},$ $I_R=1.0\text{A}, I_{RR}=0.25\text{A}$ | - | 55 | ns |

| Thermal-Mechanical Specifications ($T_A=25^{\circ}\text{C}$ unless otherwise noted) | | | |
|---|-----------------|------|-----------------------------|
| Parameter | Symbol | Typ | Unit |
| Thermal Resistance, Junction to Case | $R_{\theta JC}$ | 2.0 | $^{\circ}\text{C}/\text{W}$ |
| Thermal Resistance, Junction to Ambient | $R_{\theta JA}$ | 62.5 | $^{\circ}\text{C}/\text{W}$ |

Note:

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

Ratings and Characteristics Curves

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

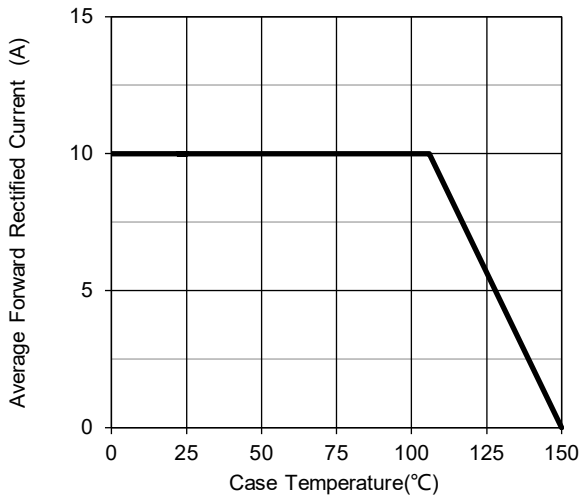


Fig.1 – Forward Current Derating Curve

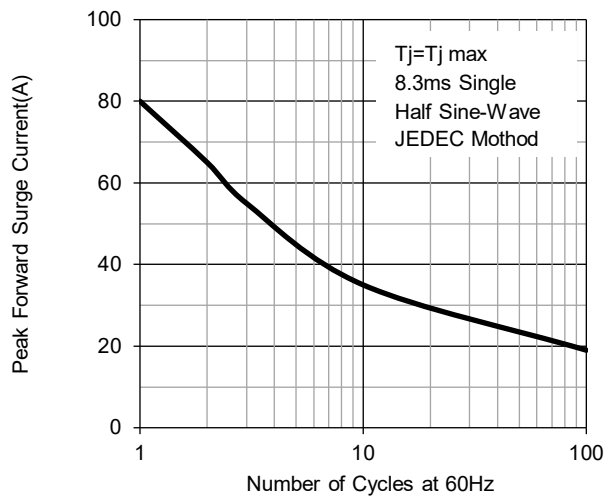


Fig.2 – Maximum Non-Repetitive Surge Current

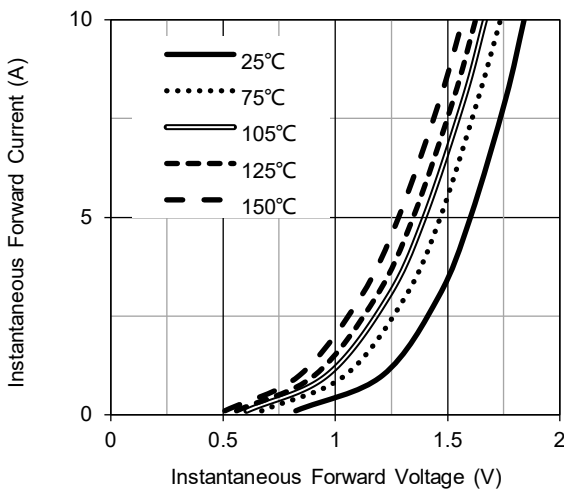


Fig.3 – Typical Forward Voltage Characteristics

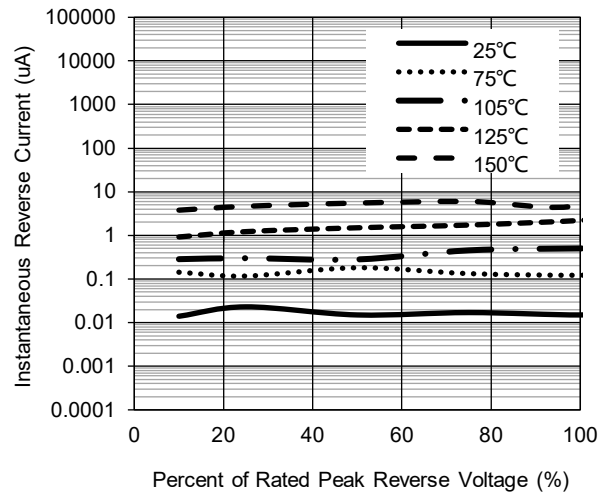


Fig.4 – Typical Reverse Current Characteristics

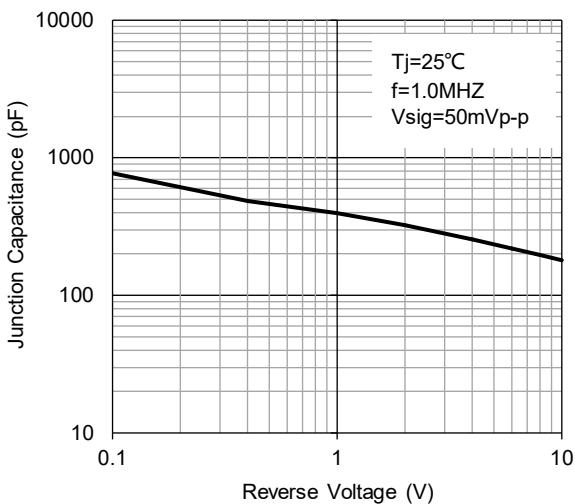
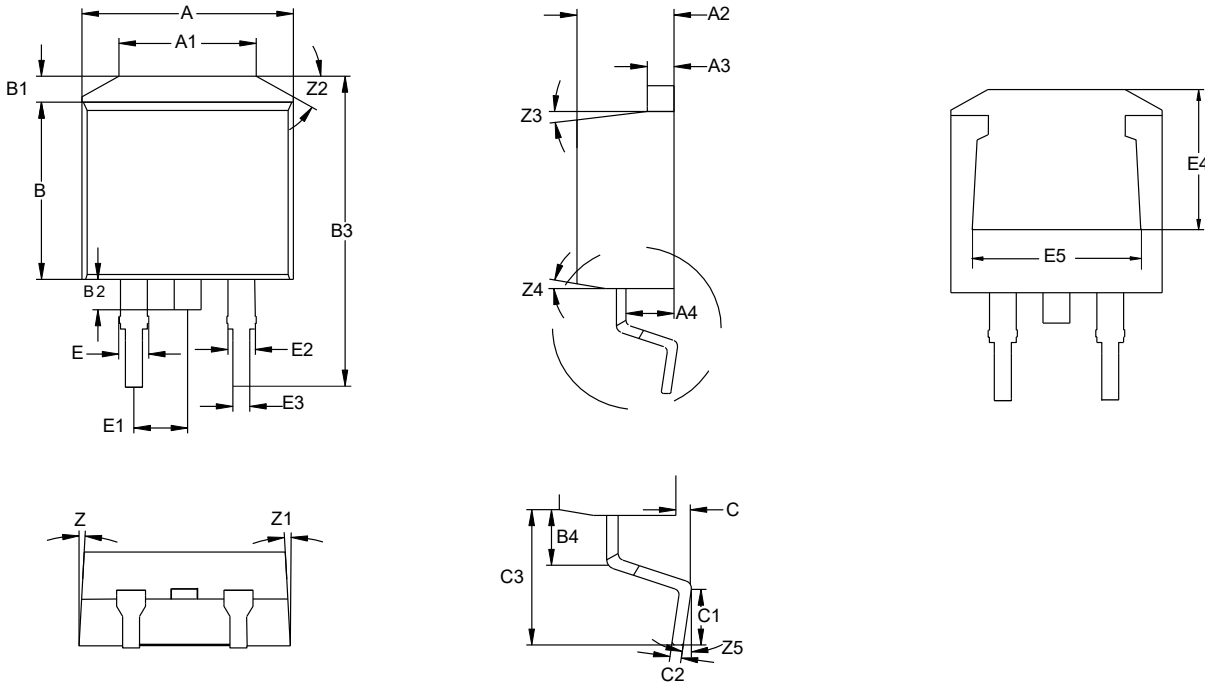


Fig.5 – Typical Junction Capacitance

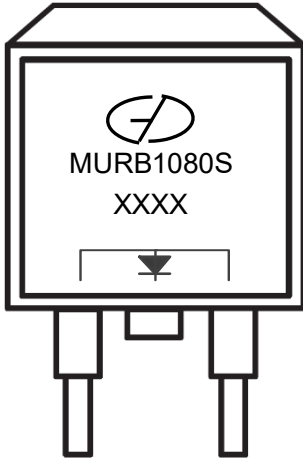
Package Outline Dimensions (Unit: millimeters)



TO-263AB



| TO-263AB | | | | | | | |
|----------|------|------|------|----|------|------|------|
| | Min. | Nom. | Max. | | Min. | Nom. | Max. |
| A | 9.8 | 10 | 10.2 | C3 | 5 | 5.3 | 5.6 |
| A1 | 6.5 | | | E | 1.17 | 1.37 | 1.57 |
| A2 | 4.4 | 4.6 | 4.8 | E1 | 2.44 | 2.54 | 2.64 |
| A3 | 1.17 | 1.27 | 1.37 | E2 | 1.17 | 1.27 | 1.37 |
| A4 | 2.37 | 2.67 | 2.97 | E3 | 0.7 | 0.8 | 0.9 |
| B | 8.5 | 8.7 | 8.9 | E4 | 6.47 | 6.67 | 6.87 |
| B1 | 1.07 | 1.27 | 1.47 | E5 | 8.3 | 8.5 | 8.7 |
| B2 | 1.2 | 1.5 | 1.8 | Z | | 3° | |
| B3 | 15 | 15.3 | 15.6 | Z1 | | 3° | |
| B4 | 1.8 | 2 | 2.2 | Z2 | | 30° | |
| C | 0 | | 0.25 | Z3 | | 7° | |
| C1 | 2.34 | 2.54 | 2.74 | Z4 | | 7° | |
| C2 | 0.3 | 0.4 | 0.5 | Z5 | -4° | | 4° |

Marking Outline



1. Logo Mark: 
2. Part Name: MURB1080S
3. Date Code: XXXX
4. Polarity : 

Revision History

| Document Version | Date of release | Description of changes |
|------------------|-----------------|------------------------|
| Rev.A | 2022.12.30 | Preliminary Datasheet |
| | | |
| | | |

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