

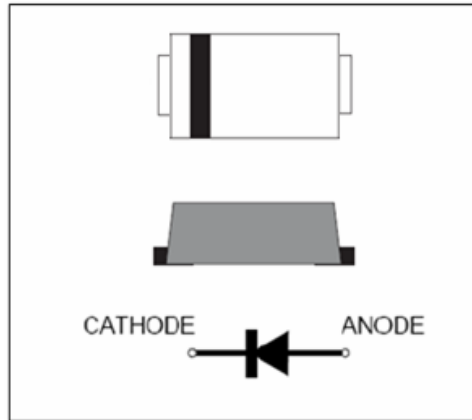
LUMBF105 thru LUMBF160

Glass Passivated Junction Ultra Fast Rectifiers

Reverse Voltage 50 to 600V Forward Current 1.0A

FEATURES

- * Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- * High temperature metallurgically bonded construction
- * Glass passivated chip
- * Capable of meeting environmental standards of MIL-S-19500
- * For use in high frequency rectifier circuits
- * Fast switching for high efficiency
- * High temperature soldering guaranteed: 260°C/10 seconds



we declare that the material of product is halogen free (green epoxy compound).

Mechanical Data

Case: JEDEC SMB-FL, molded plastic body

Terminals: Plated leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.066 g

Handling precaution: None

Electrical Characteristic

1. Maximum & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

| Parameter Symbol | symbol | LUMB F105 | LUMB F110 | LUMB F115 | LUMB F120 | LUMB F140 | LUMB F150 | LUMB F160 | Unit |
|--|--------------------------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|------|
| device marking code | | UM105 | UM110 | UM115 | UM120 | UM140 | UM150 | UM160 | |
| Maximum repetitive peak reverse voltage | V_{RRM} | 50 | 100 | 150 | 200 | 400 | 500 | 600 | V |
| Maximum RSM voltage | V_{RSM} | 35 | 70 | 105 | 140 | 280 | 350 | 420 | V |
| Maximum DC blocking voltage | V_{DC} | 50 | 100 | 150 | 200 | 400 | 500 | 600 | V |
| Maximum average forward rectified current at TC = 75°C | IF(AV) | 1.0 | | | | | | | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 30 | | | | | | | A |
| Typical thermal resistance (Note 2) | R θ JA R θ JC | 135 25 | | | | | | | °C/W |
| Operating junction and storage temperature range | TJ, TSTG | -50 to +150 | | | | | | | °C |

Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

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|---|--------|------------|-----------|-----------|-----------|-----------|-----------|-----------|------|
| Maximum Instantaneous Forward Voltage (IF = 1.0 Amps, TJ = 25°C) | V_F | 0.93 | | | 1.25 | | 1.5 | | V |
| Maximum full load reverse current, full cycle average, (note2) (Rated dc Voltage, TJ = 125°C) (Rated dc Voltage, TJ = 25°C) | IR | 150 5.0 | | | | | | | μA |
| Typical reverse recovery time (Note 1) | trr | 35 | | | 50 | | | | ns |
| Typical junction capacitance at 4.0V, 1MHz | CJ | 45 | | | | | | | PF |

NOTES:

1. IF = 0.5A, IR = 1.0A, IRR = 0.25A
2. 8.0mm² (.013mm thick) land areas

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2. Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

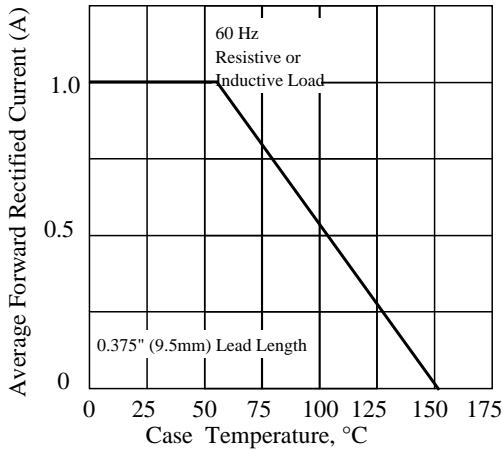


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

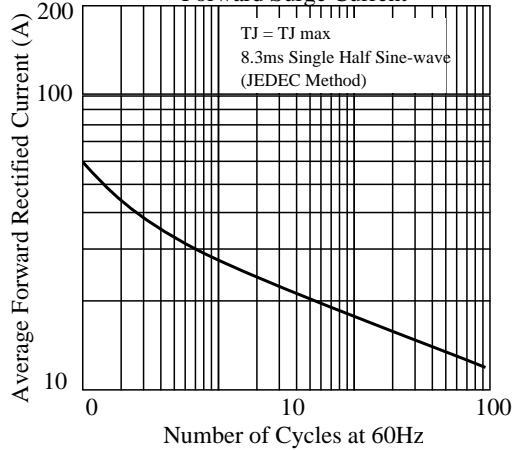


Fig 3. - Typical Instantaneous Forward Characteristics

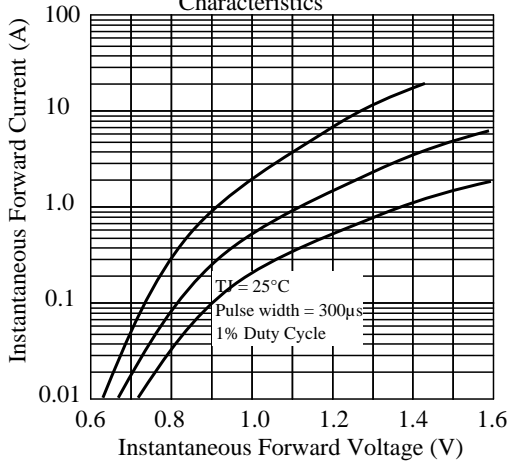


Fig 4. - Typical Reverse Characteristics

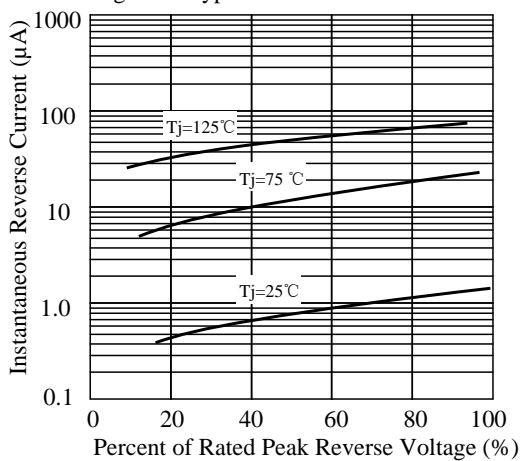


Fig 5. - typical transient thermal impedance

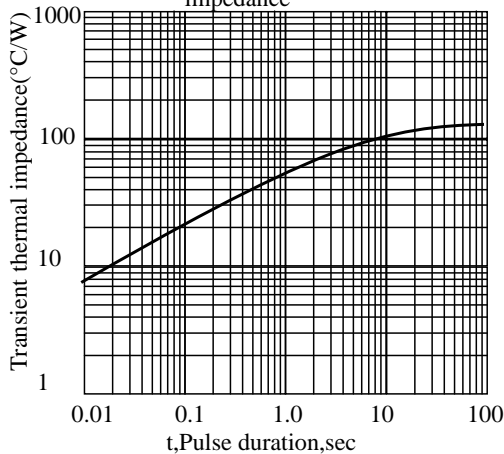
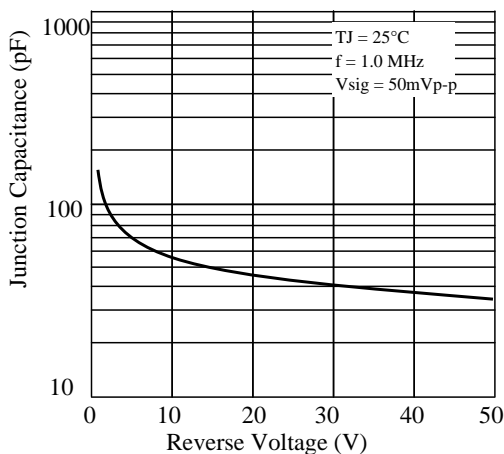


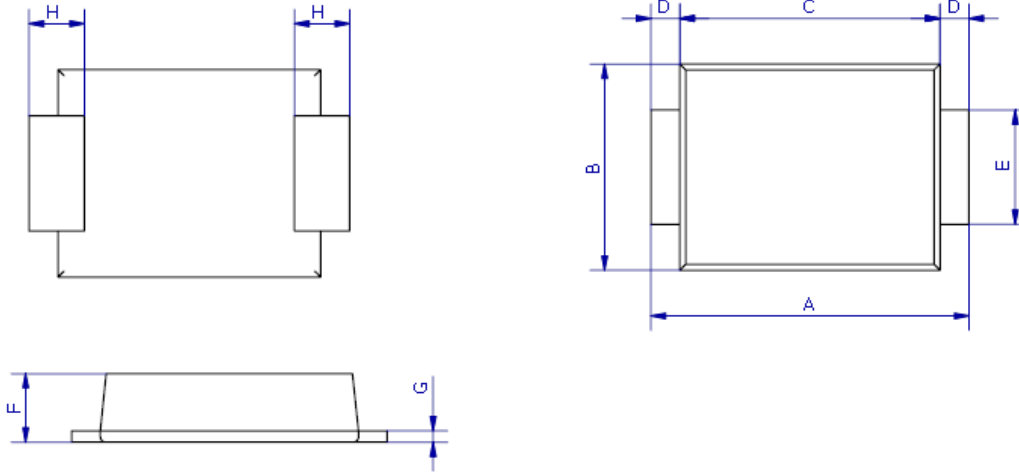
Fig 6. - Typical Junction Capacitance



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3. dimension:

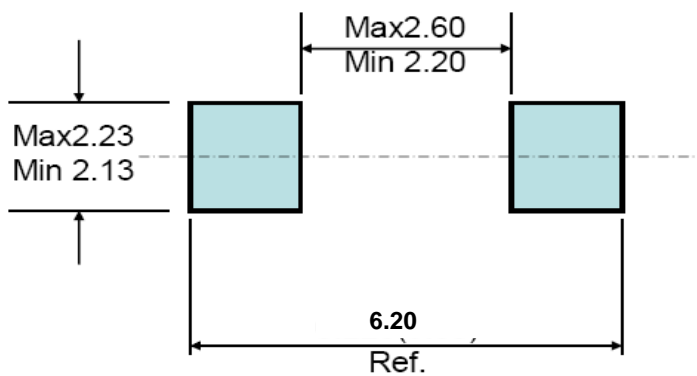
SMB-FL



| DIM | MILLIMETERS | | INCHES | |
|-----|-------------|------|----------|---------|
| | MIN | MAX | MIN | MAX |
| A | 5.3 | 5.7 | 0.209 | 0.224 |
| B | 3.4 | 3.8 | 0.134 | 0.150 |
| C | 4.3 | 4.7 | 0.169 | 0.185 |
| D | 0.45Typ | | 0.018Typ | |
| E | 1.9 | 2.1 | 0.0748 | 0.08268 |
| F | 1.05 | 1.40 | 0.04134 | 0.05512 |
| G | 0.2 | 0.3 | 0.00591 | 0.00984 |
| H | 0.95Typ | | 0.037Typ | |

Mounting Pad Layout

--- SMB-FL



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4. Update Record

| 版次 | 更新记录 | 更新作者 | 更新日期 |
|----|------|------|------------|
| 1 | 第一版 | 周杰 | 2014.04.30 |