



E502650

## Features

- Halogen Free. "Green" Device (Note 1)
- Glass Passivated Chip Junction
- Moisture Sensitivity Level 1
- Surface Mount Package
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note 1) ("P" Suffix Designates RoHS Compliant. See Ordering Information)

## Maximum Ratings @ 25°C (Unless Otherwise Specified)

| Parameter                                                | Symbol             | Value                                                 |           |           |           |            | Unit             |
|----------------------------------------------------------|--------------------|-------------------------------------------------------|-----------|-----------|-----------|------------|------------------|
|                                                          |                    | LMB<br>2S                                             | LMB<br>4S | LMB<br>6S | LMB<br>8S | LMB<br>10S |                  |
| Peak Repetitive Reverse Voltage                          | V <sub>RRM</sub>   | 200                                                   | 400       | 600       | 800       | 1000       | V                |
| Working Peak Reverse Voltage                             | V <sub>RWM</sub>   |                                                       |           |           |           |            |                  |
| DC Blocking Voltage                                      | V <sub>R</sub>     |                                                       |           |           |           |            |                  |
| RMS Reverse Voltage                                      | V <sub>RMS</sub>   | 140                                                   | 280       | 420       | 560       | 700        | V                |
| Average Rectified Forward Current @ See Fig.1            | I <sub>F(AV)</sub> | 1.0 on Aluminum Substrate<br>0.8 on Glass-epoxy P.C.B |           |           |           |            | A                |
| Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave | I <sub>FSM</sub>   | 30                                                    |           |           |           |            | A                |
| Non-Repetitive Peak Surge Current @ 1ms Square Wave      |                    | 60                                                    |           |           |           |            |                  |
| Current Squared Time @1ms≤t≤8.3ms                        | I <sup>2</sup> t   | 3.735                                                 |           |           |           |            | A <sup>2</sup> s |

## Marking Code

| Part Number | Marking Code |
|-------------|--------------|
| LMB2S       | LB2S         |
| LMB4S       | LB4S         |
| LMB6S       | LB6S         |
| LMB8S       | LB8S         |
| LMB10S      | LB10S        |

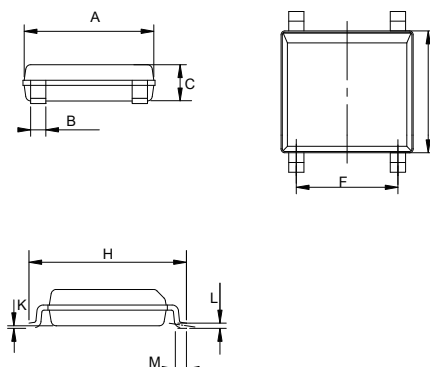
## Internal Structure

| Simplified Outline         | Graphic Symbol |
|----------------------------|----------------|
| <p>XXXX = Marking Code</p> |                |

- Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. High temperature solder exemption applied, see EU directive annex 7a.

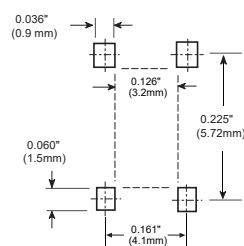
# 1 Amp Single Phase Bridge Rectifier 200 to 1000 Volts

## LMBS-1



| DIM | INCHES |       | MM   |      | NOTE |
|-----|--------|-------|------|------|------|
|     | MIN    | MAX   | MIN  | MAX  |      |
| A   | 0.193  | 0.205 | 4.90 | 5.20 |      |
| B   | 0.024  | 0.031 | 0.60 | 0.80 |      |
| C   | ---    | 0.059 | ---  | 1.50 |      |
| E   | 0.170  | 0.185 | 4.30 | 4.70 |      |
| F   | 0.150  | 0.165 | 3.80 | 4.20 |      |
| H   | 0.236  | 0.260 | 6.00 | 6.60 |      |
| K   | 0.0008 | 0.008 | 0.02 | 0.21 |      |
| L   | 0.006  | 0.012 | 0.15 | 0.30 |      |
| M   | 0.001  | 0.031 | 0.25 | 0.80 |      |

## Suggested Solder Pad Layout



## Thermal characteristics

| Symbol        | Parameter                                   | Conditions | Min | Typ | Max | Unit |
|---------------|---------------------------------------------|------------|-----|-----|-----|------|
| $T_J$         | Operating Junction Temperature Range        |            | -55 |     | 150 | °C   |
| $T_{stg}$     | Storage Temperature Range                   |            | -55 |     | 150 | °C   |
| $R_{th(J-C)}$ | Thermal Resistance from Junction to Case    | Note 1     |     | 22  |     | °C/W |
| $R_{th(J-L)}$ | Thermal Resistance from Junction to Lead    | Note 1     |     | 25  |     | °C/W |
| $R_{th(J-A)}$ | Thermal Resistance from Junction to Ambient | Note 1     |     | 80  |     | °C/W |

Note:

1. Device mounted P.C.B with 0.47x0.47 (12mmx12mm) copper pads.

## Electrical Characteristics @ 25°C Unless Otherwise Specified(Per Diode)

| Parameter            | Symbol | Test Conditions                                                     | Min | Typ | Max      | Unit    |
|----------------------|--------|---------------------------------------------------------------------|-----|-----|----------|---------|
| Forward Voltage      | $V_F$  | $I_F=0.4A; T_J=25^{\circ}C$                                         |     |     | 0.95     | V       |
| Reverse Current      | $I_R$  | at Rated $V_R; T_J=25^{\circ}C$<br>at Rated $V_R; T_J=125^{\circ}C$ |     |     | 5<br>100 | $\mu A$ |
| Junction Capacitance | $C_J$  | $V_R=4V; f=1MHz; T_J=25^{\circ}C$                                   |     | 12  |          | pF      |

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

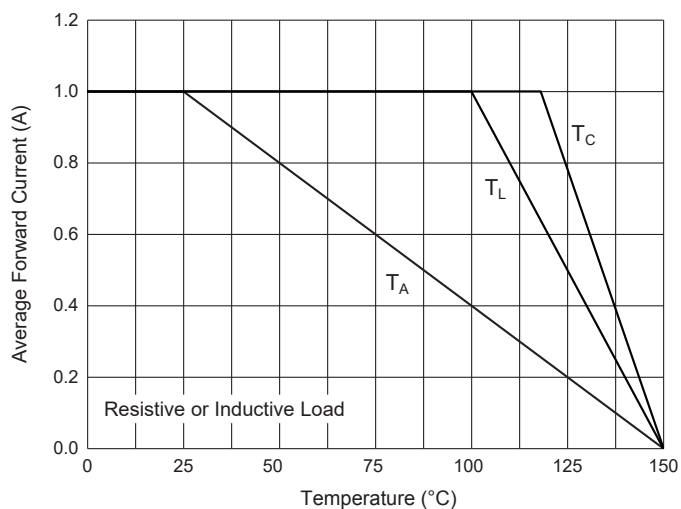


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

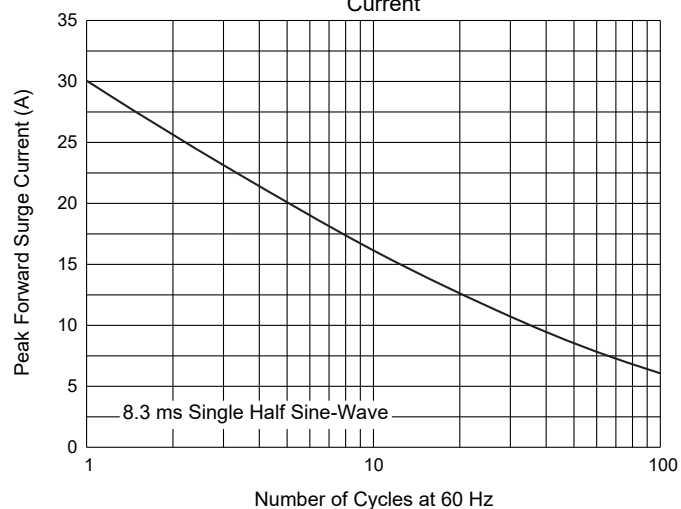


Fig. 3 - Typical Forward Characteristics

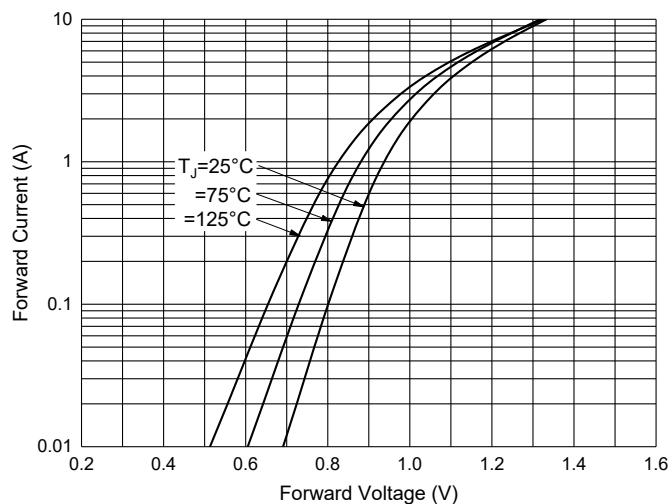


Fig. 4 - Typical Reverse Leakage Characteristics

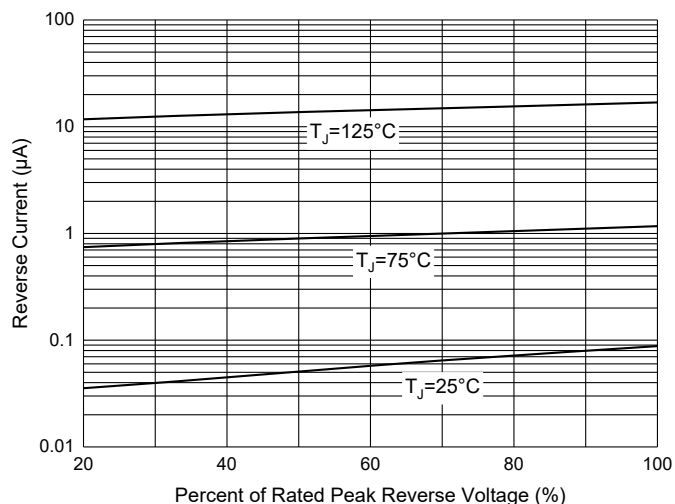
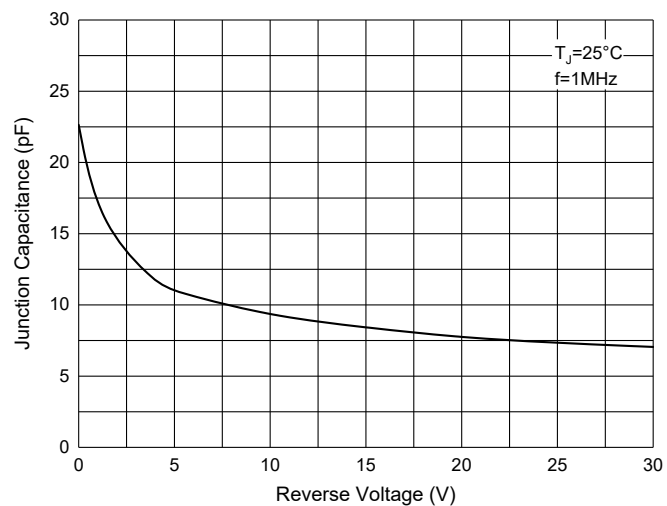


Fig. 5 - Typical Capacitance Characteristics



## Ordering Information

| Device         | Packing              |
|----------------|----------------------|
| Part Number-TP | Tape&Reel:5Kpcs/Reel |

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