

**Single Phase 4.0Amp Fast Recovery Bridge Rectifiers**
**MSBL**

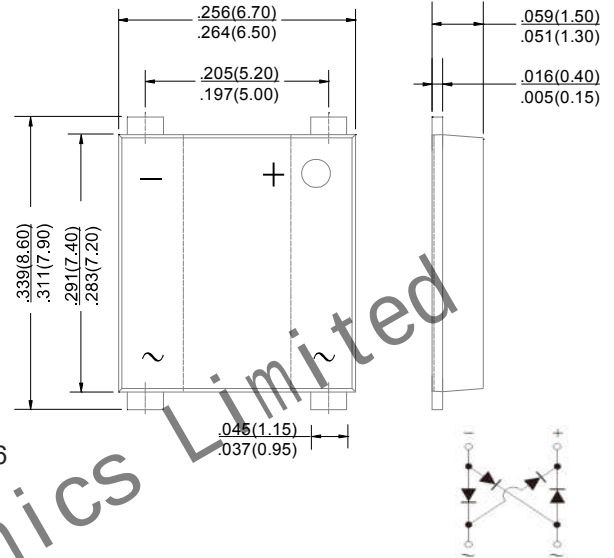
**Features**

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Idea for printed circuit board
- Glass passivated Junction chip
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed  
250°C/10 seconds at terminals

**Mechanical Data**
**Case** : Molded plastic body

**Terminals** : Solder plated, solderable per MIL-STD-750,Method 2026

**Polarity** : Polarity symbol marking on body

**Mounting Position** : Any


Dimensions in inches and (millimeters)

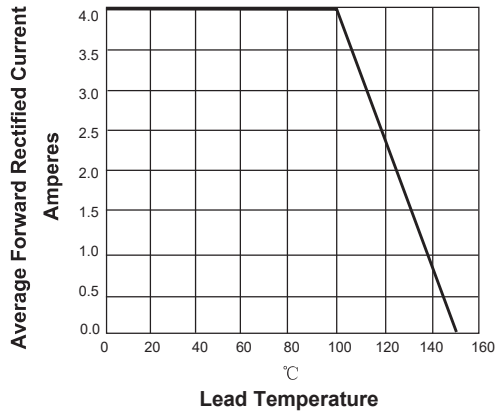
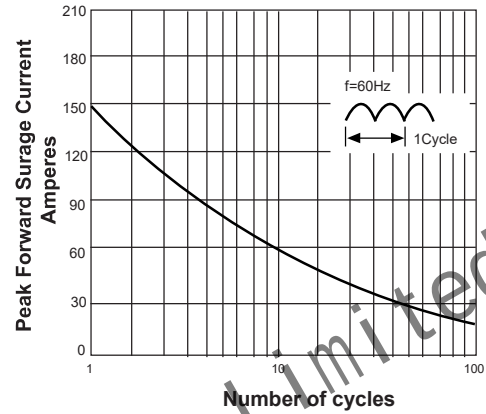
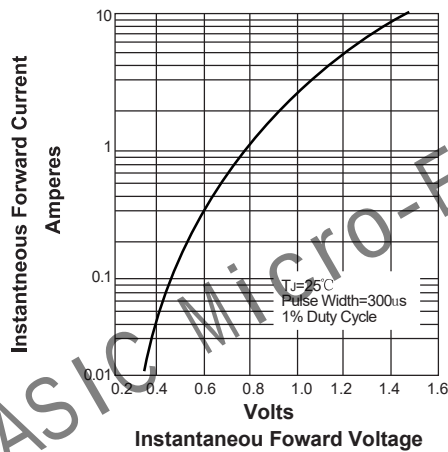
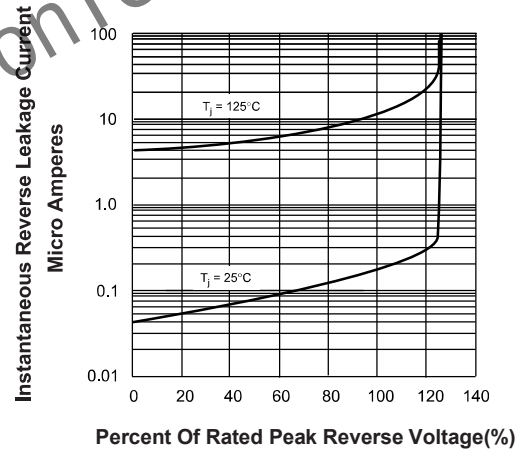
**Maximum Ratings And Electrical Characteristics**

Ratings at 25°C ambient temperature unless otherwise specified. Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

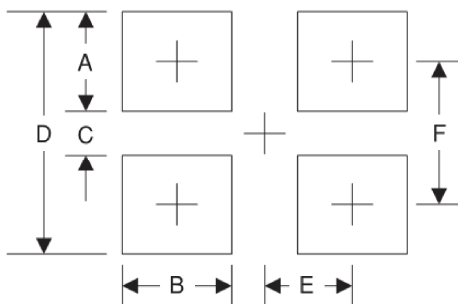
| Parameter                                                                          | SYMBOLS                          | ARDRMS<br>B401LX0 | ARDRMS<br>B402LX0 | ARDRMS<br>B403LX0 | ARDRMS<br>B404LX0 | ARDRMS<br>B405LX0 | ARDRMS<br>B406LX0 | ARDRMS<br>B407LX0 | UNITS                       |
|------------------------------------------------------------------------------------|----------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-----------------------------|
| Maximum repetitive peak reverse voltage                                            | V <sub>RRM</sub>                 | 50                | 100               | 200               | 400               | 600               | 800               | 1000              | V                           |
| Maximum RMS voltage                                                                | V <sub>RMS</sub>                 | 35                | 70                | 140               | 280               | 420               | 560               | 700               | V                           |
| Maximum DC blocking voltage                                                        | V <sub>DC</sub>                  | 50                | 100               | 200               | 400               | 600               | 800               | 1000              | V                           |
| Maximum average forward rectified current at T <sub>L</sub> =100°C                 | I <sub>(AV)</sub>                | 4.0               |                   |                   |                   |                   |                   |                   | A                           |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load | I <sub>FSM</sub>                 | 150.0             |                   |                   |                   |                   |                   |                   | A                           |
| Rating for fusing (t=8.3ms, T <sub>a</sub> =25°C)                                  | I <sup>2</sup> <sub>t</sub>      | 93.3              |                   |                   |                   |                   |                   |                   | A <sup>2</sup> <sub>s</sub> |
| Maximum instantaneous forward voltage at 4.0A                                      | V <sub>F</sub>                   | 1.30              |                   |                   |                   |                   |                   |                   | V                           |
| Maximum DC reverse current<br>at rated DC blocking voltage                         | I <sub>R</sub>                   | 5.0<br>500        |                   |                   |                   |                   |                   |                   | uA                          |
| Maximum reverse recovery time(Note 1)                                              | T <sub>rr</sub>                  | 150               |                   |                   |                   | 250               | 500               |                   | ns                          |
| Typical junction capacitance (Note 1)                                              | C <sub>J</sub>                   | 68.0              |                   |                   |                   |                   |                   |                   | pF                          |
| Typical thermal resistance                                                         | R <sub>qJA</sub>                 | 55.0              |                   |                   |                   |                   |                   |                   | °C/W                        |
| Operating junction and storage temperature range                                   | T <sub>J</sub> ,T <sub>STG</sub> | -55 to +150       |                   |                   |                   |                   |                   |                   | °C                          |

**Note:** 1.Reverse recovery time test condition:  $I_F=0.5A$   $I_R=1.0A$   $I_{rr}=0.25A$   
2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.

## Ratings And Characteristic Curves

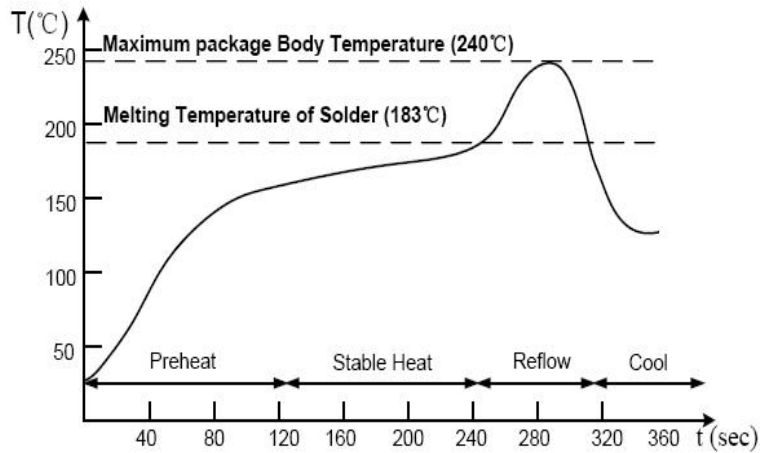
**FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT**

**FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG**

**FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS**

**FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS**


## Suggested Pad Layout



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A      | 1.8       | 0.071       |
| B      | 2.0       | 0.078       |
| C      | 5.50      | 0.216       |
| D      | 9.15      | 0.360       |
| E      | 2.6       | 0.102       |
| F      | 7.35      | 0.289       |

## Suggested Soldering Temperature Profile

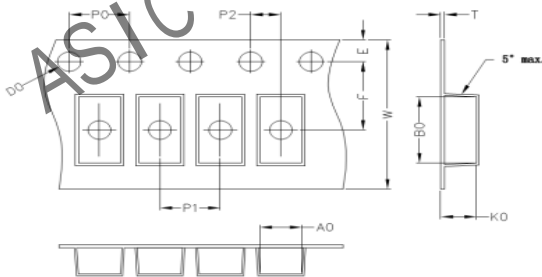


### Note

- Recommended reflow methods: IR, vapor phase oven, hot air oven, wave solder.
- The device can be exposed to a maximum temperature of 265°C for 10 seconds.
- Devices can be cleaned using standard industry methods and solvents.
- If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

## Package Information

### Carrier Dimension(mm)



| A0   | B0   | K0   | D0   | E    | F         |
|------|------|------|------|------|-----------|
| 6.90 | 8.60 | 1.65 | 1.55 | 1.75 | 7.50      |
| P0   | P1   | P2   | T    | W    | Tolerance |
| 4.0  | 12.0 | 2.0  | 0.30 | 16   | 0.1       |

### Package Specifications

| Package | Reel Size | Reel DIA. (mm) | Q'TY/Reel (Kpcs) | Box Size (mm) | QTY/Box (Kpcs) | Carton Size (mm) | Q'TY/Carton (Kpcs) |
|---------|-----------|----------------|------------------|---------------|----------------|------------------|--------------------|
| MSBL    | 13'       | 330            | 3                | 338           | 6              | 365*365*360      | 48                 |