

# MAN2450L32

2.4 GHz Chip Antenna

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2.4 GHz Chip Antenna  
For WiFi and Bluetooth

# MAN2450L32

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3.2x1.6x1 mm

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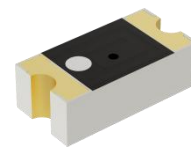
# MAN2450L32

## 2.4 GHz Chip Antenna



### Applications

1. 2.4 GHz WiFi device
2. Bluetooth gadget
3. Zigbee device
4. ISM band equipment



### Features

1. Compact size
2. Omni-directional radiation
3. Tape & reel automatic mounting
4. Reflow process compatible
5. RoHS compliance (Pb-Free)

### Description

The antenna is designed for superior performance, and can be widely used for wireless applications. We provide comprehensive antenna design support such as simulation, testing and manufacturing for custom antenna solutions to meet your specific application needs.

### Electrical Specification

Table 1. MAN2450L32 Electrical Specification

| Item              | Min.  | Type   | Max. | Unit     |
|-------------------|-------|--------|------|----------|
| Frequency Range   | 2400  |        | 2500 | MHz      |
| VSWR              | 1.22  |        | 2.21 |          |
| Efficiency        | 34    |        | 49   | %        |
| Peak Gain         | -0.09 |        | 1.81 | dBi      |
| Polarization      |       | Linear |      |          |
| Nominal Impedance |       | 50     |      | $\Omega$ |

• Ta: +25±5°C

### Mechanical Specification

Table 2. MAN2450L32 Mechanical Specification

| Item                  | Min. | Type       | Max. | Unit |
|-----------------------|------|------------|------|------|
| Antenna Size          |      | 3.2*1.6* 1 |      | Mm   |
| Storage Temperature   | -40  |            | +125 | °C   |
| Operating temperature | -40  |            | +125 | °C   |

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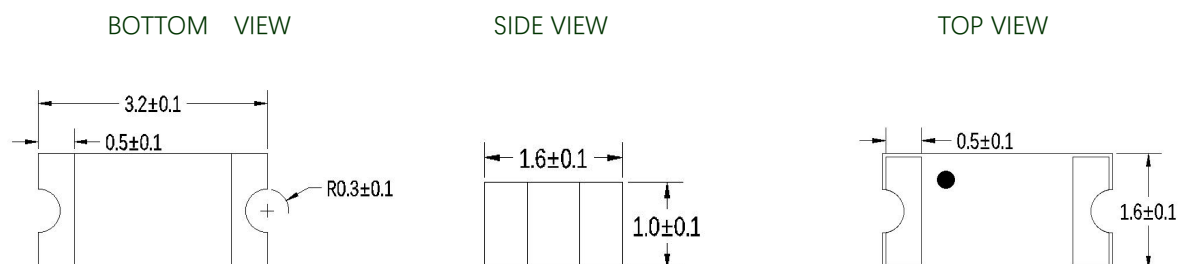
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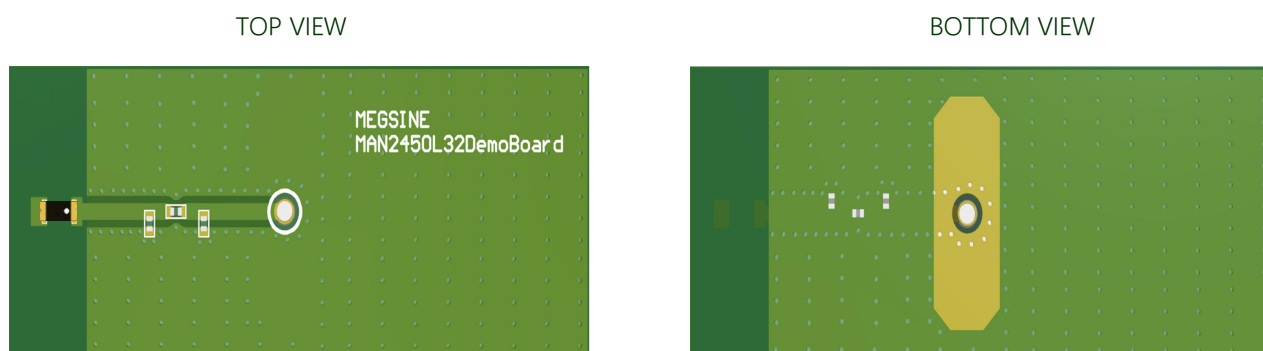
## Outline Drawing

Figure 1. MAN2450L32 View (Unit: mm)



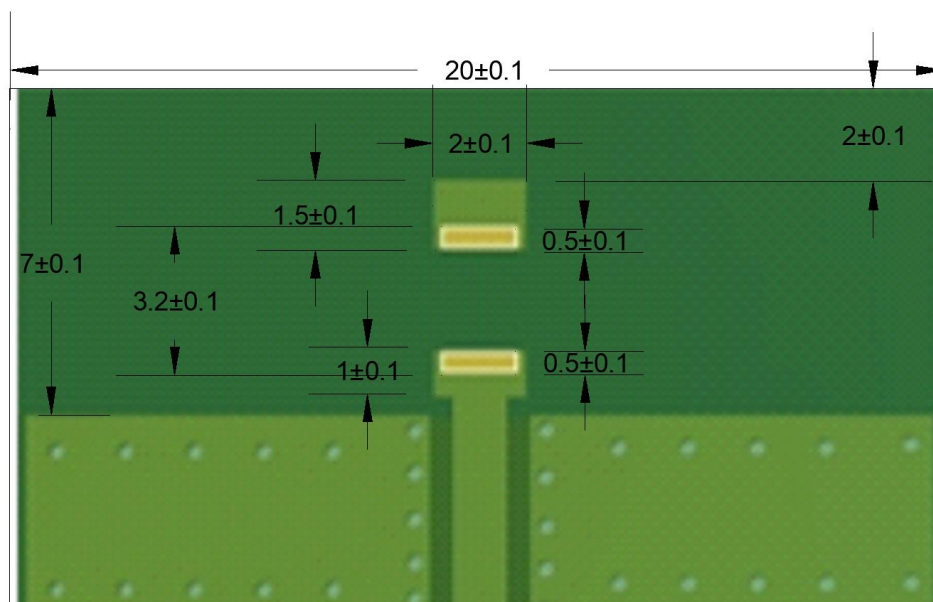
## Recommend PCB Layout

Figure 2. MAN2450L32 PCB Layout (Unit: mm)



Size 53\*20mm

Figure 3. MAN2450L32 Antenna Layout (Unit: mm)



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Figure 4. MAN2450L32 Matching Circuit (Unit: mm)

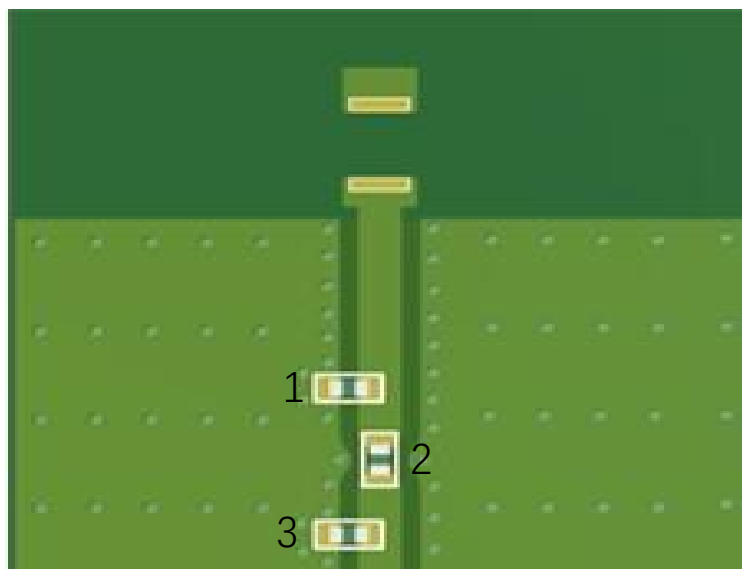
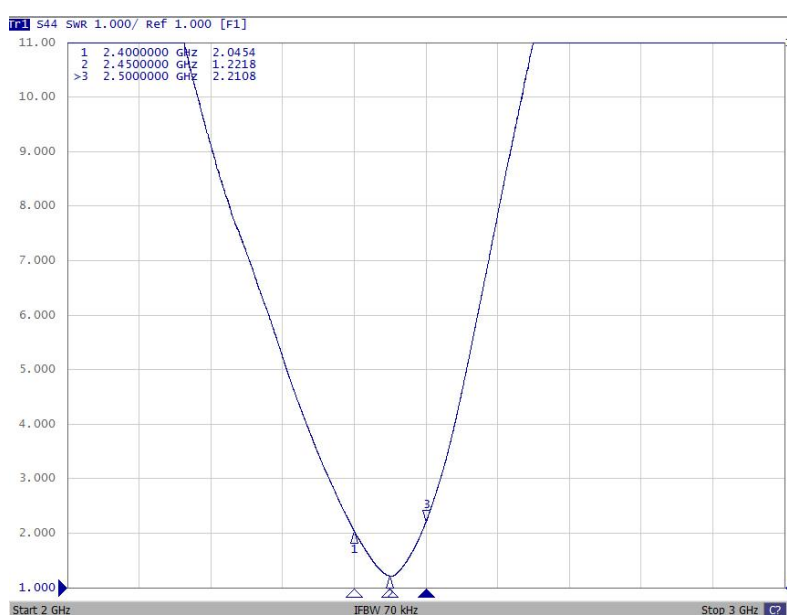


Table 3. MAN2450L32 Matching

| Location | Description | Vendor |
|----------|-------------|--------|
| 1        | N/C         | N/C    |
| 2        | 0Ω          | MURATA |
| 3        | N/C         | N/C    |

## Typical Performance

Figure 5. MAN2450L32 VSWR



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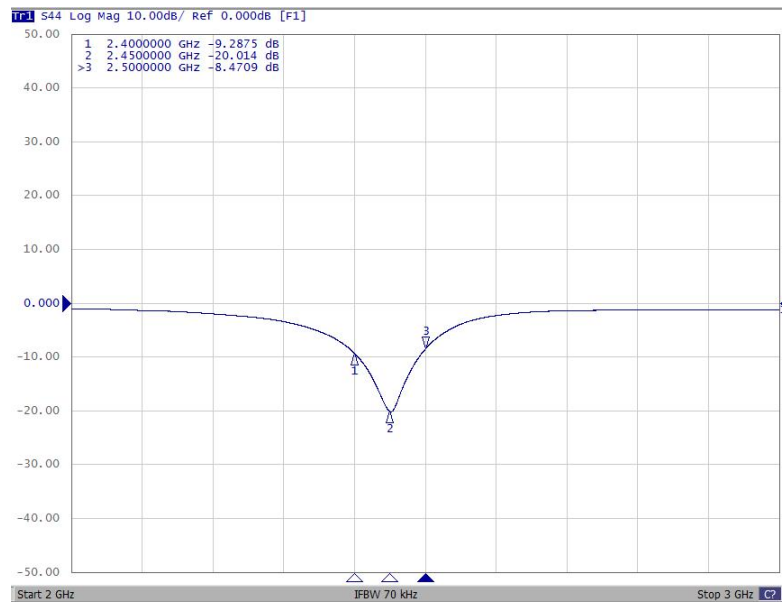
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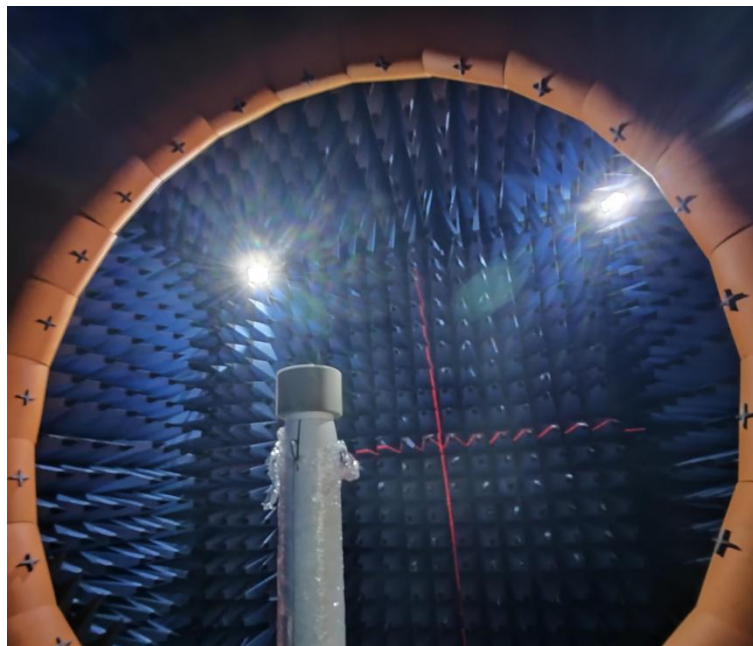
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Figure 6. MAN2450L32 Return Loss



## Radiation Pattern & Efficiency & Peak Gain

Figure 7. The Gain pattern is measured in FAR-field chamber



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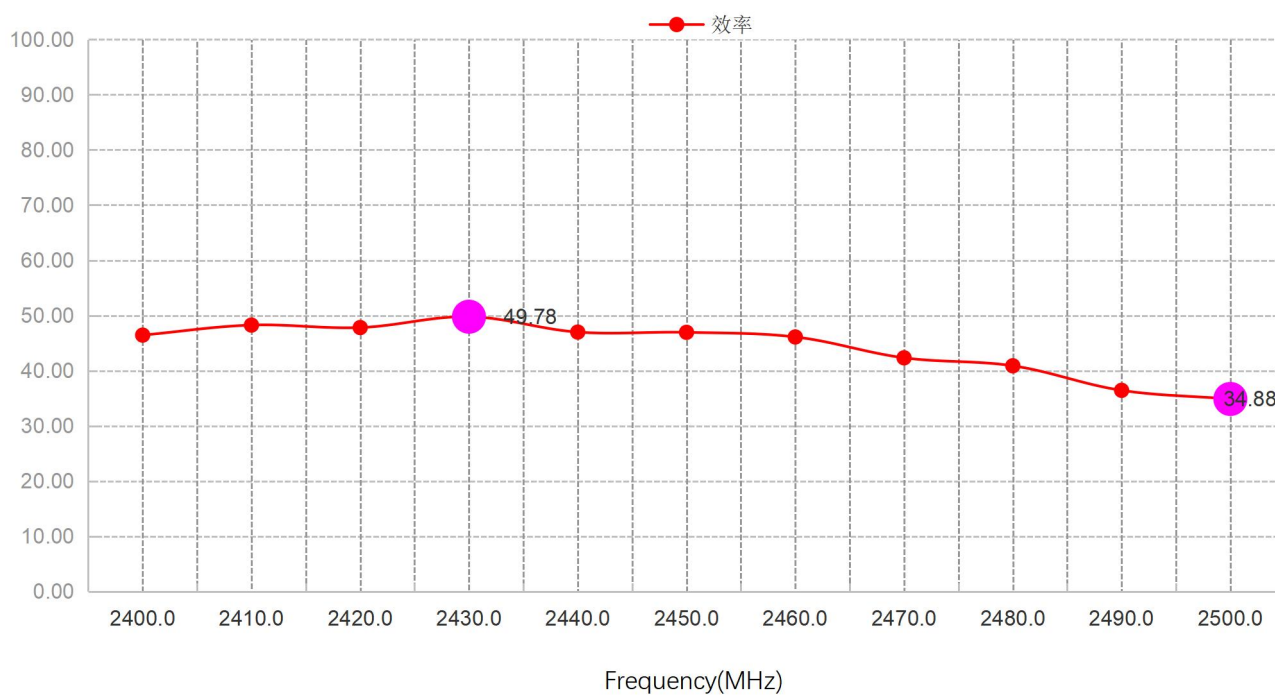
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Table 4. MAN2450L32 Total Efficiency&Peak Gain

| Item (MHz) | Efficiency (%) | Peak Gain (dBi) |
|------------|----------------|-----------------|
| 2400       | 46.44          | 1.71            |
| 2410       | 48.26          | 1.81            |
| 2420       | 47.81          | 1.67            |
| 2430       | 49.78          | 1.79            |
| 2440       | 46.99          | 1.43            |
| 2450       | 46.95          | 1.42            |
| 2460       | 46.11          | 1.34            |
| 2470       | 42.33          | 0.87            |
| 2480       | 40.89          | 0.72            |
| 2490       | 36.44          | 0.16            |
| 2500       | 34.88          | -0.09           |

Figure 8. MAN2450L32 Total Efficiency



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Figure 9. MAN2450L32 Peak Gain

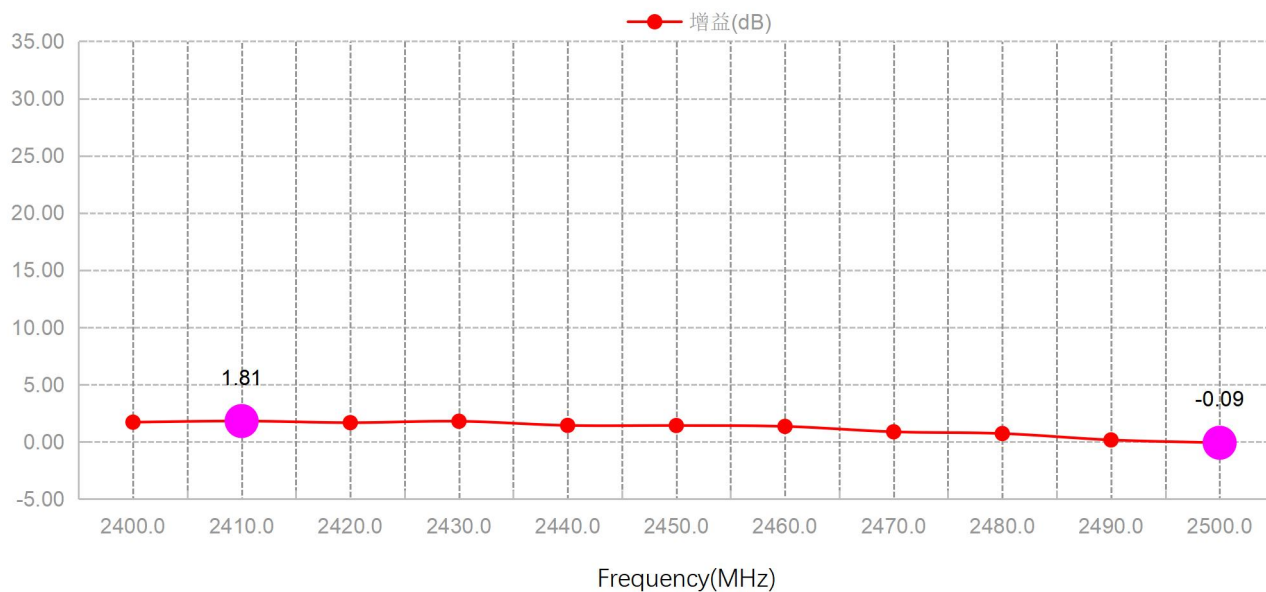
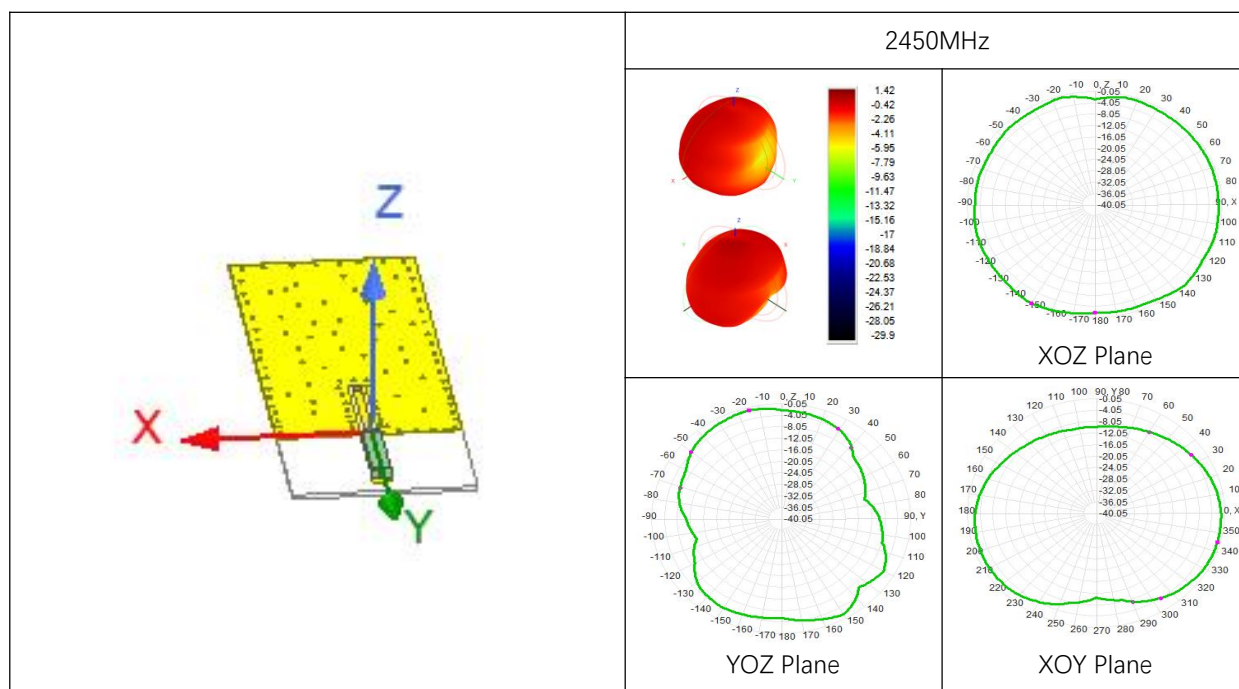


Figure 10. Radiation Pattern



\*Antenna performance will also change in different environments, it is recommended to consult the relevant technical personnel before use to confirm the layout to ensure good performance.

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## Packaging and Ordering Information

Figure 11. Packaging Information

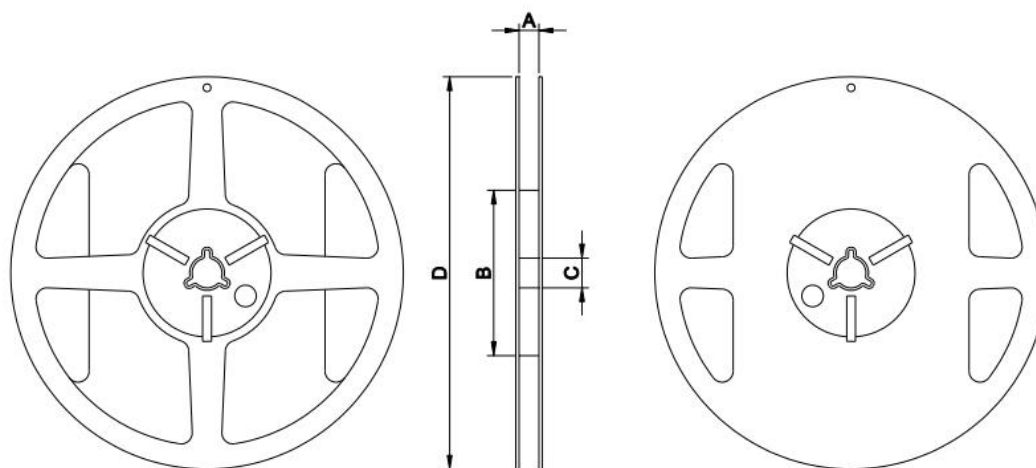
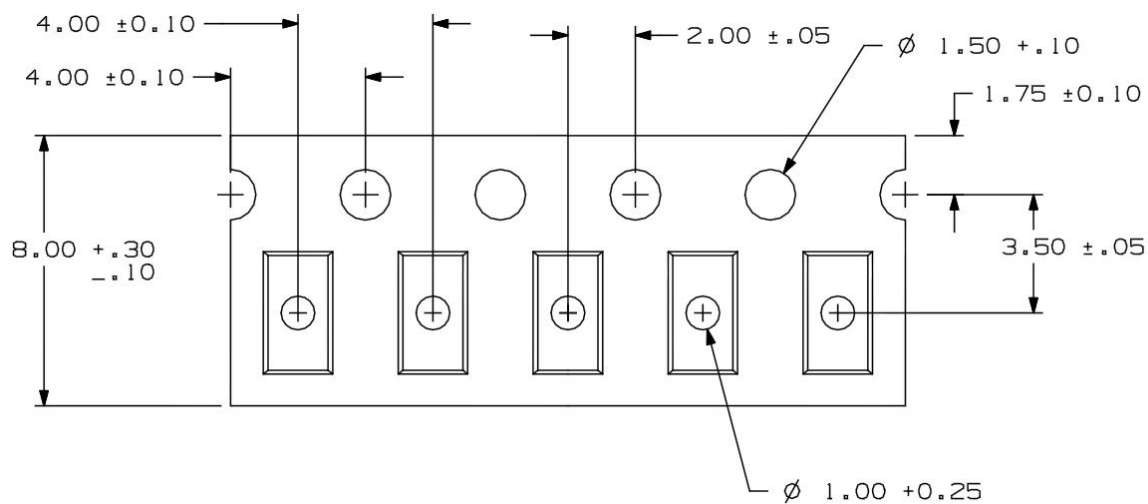


Table 5. Packaging and Shipping

| Device     | Packaging | Reel | Shipping  |
|------------|-----------|------|-----------|
| MAN2450L32 | SMD       | 7"   | 3000/Reel |

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| Revision | Description | Date      |
|----------|-------------|-----------|
| Rev0     | Preliminary | 2025/6/20 |
|          |             |           |
|          |             |           |
|          |             |           |

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