

MAN2450C50

2.4 GHz Chip Antenna

MECSINE 兆讯

2.4 GHz Chip Antenna
For WiFi and Bluetooth

MAN2450C50

5x3.6x0.6 mm

All Use For RF & Microwave

Shenzhen Megsine technology co., ltd www.megsine.com sales@megsine.com may contain us for future information
Feb. 03, 2024

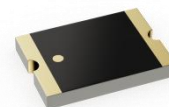
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Applications

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. MAN2450C50 Electrical Specification

Item	Min.	Type	Max.	Unit
Frequency Range	2400		2500	MHz
VSWR	1.0		2.5	:1
Efficiency	62		75	%
Peak Gain		2.05		dBi
Polarization		Linear		
Nominal Impedance		50		Ω

- Ta: +25±5°C

Mechanical Specification

Table 2. MAN2450C50 Mechanical Specification

Item	Min.	Type	Max.	Unit
Antenna Size		5.0*3.6*0.6		Mm
Temperature	-40		+85	°C
Operating temperature	-40		+85	°C

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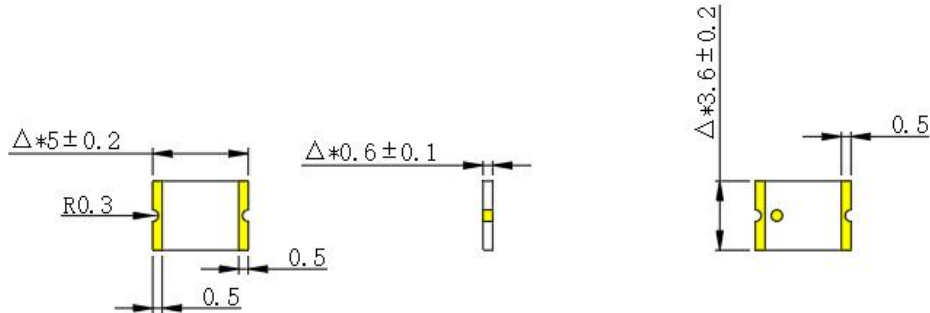
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Outline Drawing

Figure 1. MAN2450C50 View (Unit: mm)

BOTTOM VIEW SIDE VIEW TOP VIEW



Recommend PCB Layout

Figure 2. MAN2450C50 PCB Layout (Unit: mm) TOP VIEW

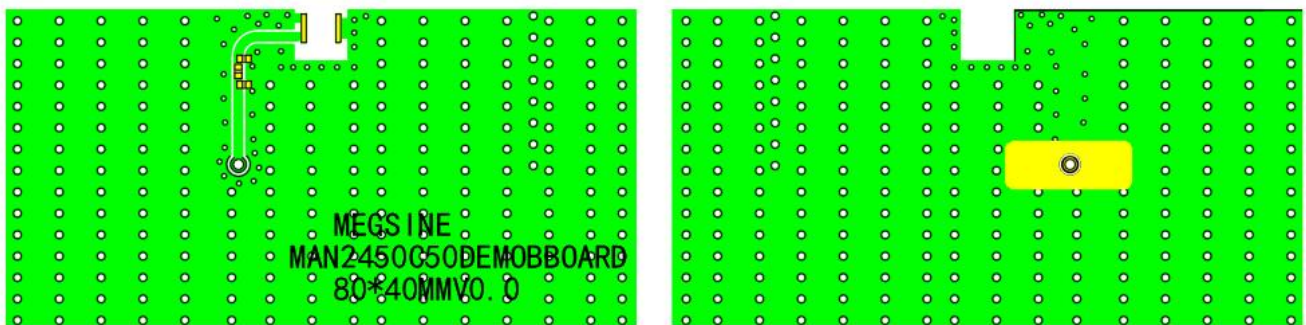
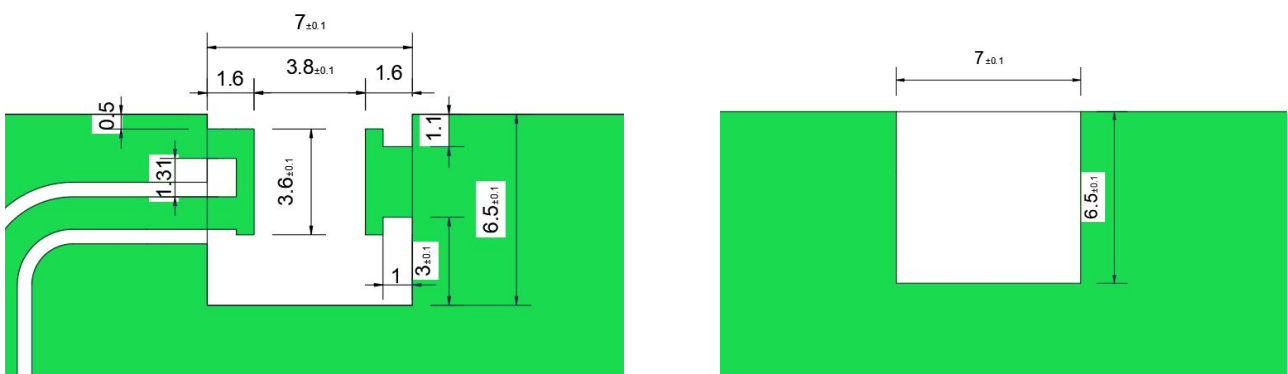


Figure 3. MAN2450C50 Antenna Layout (Unit: mm)



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Figure 4. MAN2450C50 Foot Print (Unit: mm)

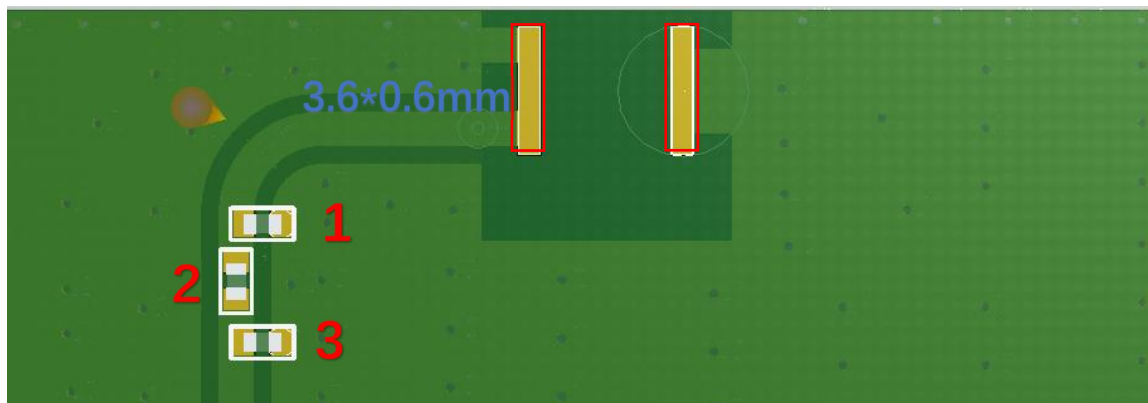
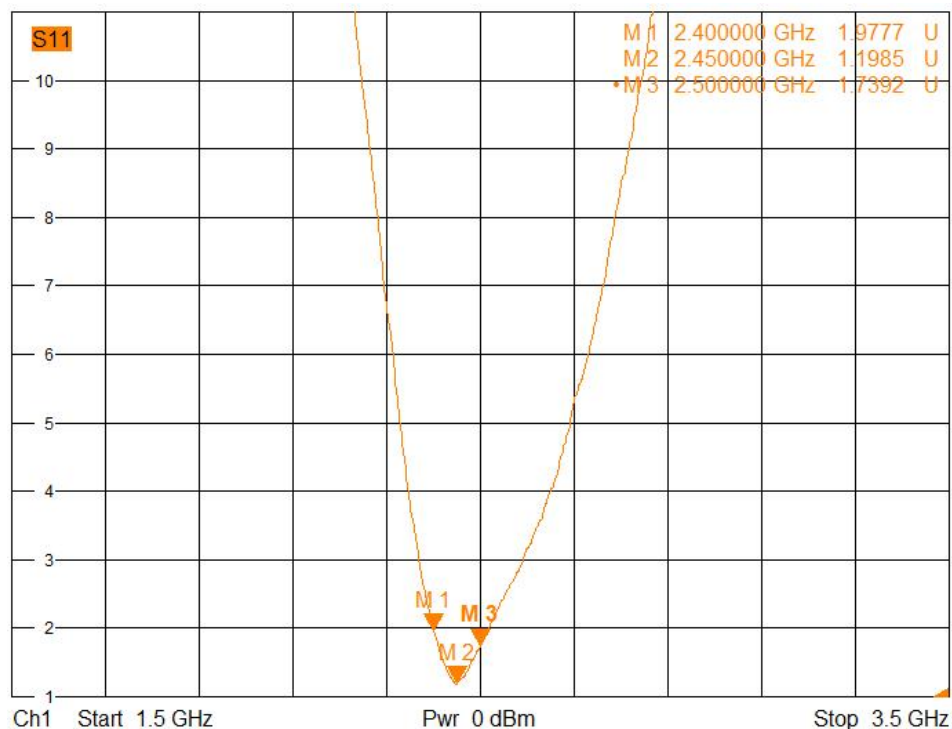


Table 3. MAN2450C50 Matching

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

Typical Performance

Figure 5. MAN2450C50 VSWR



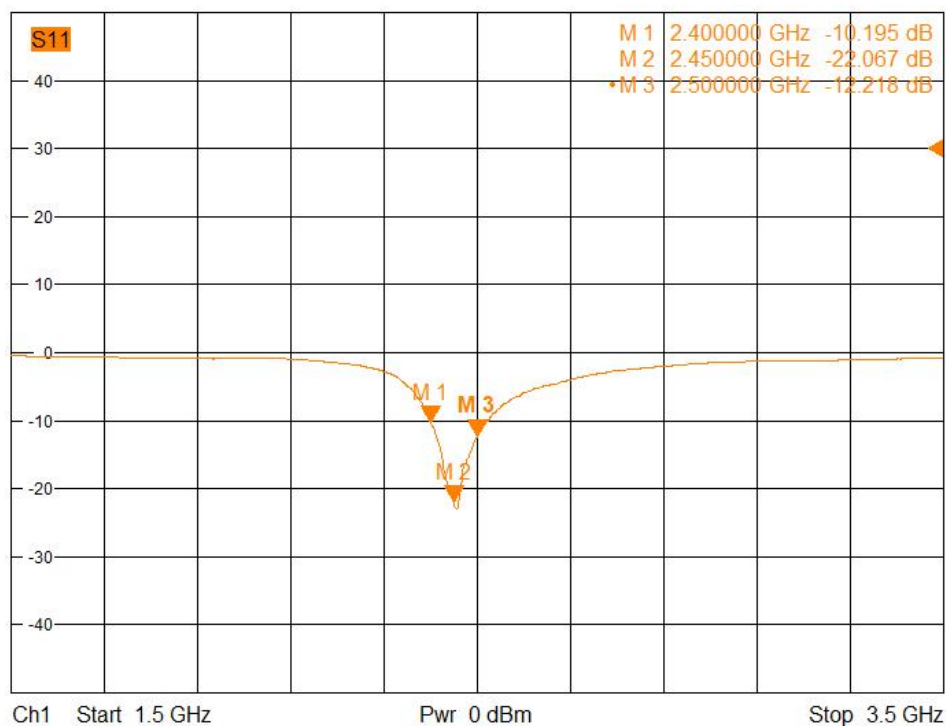
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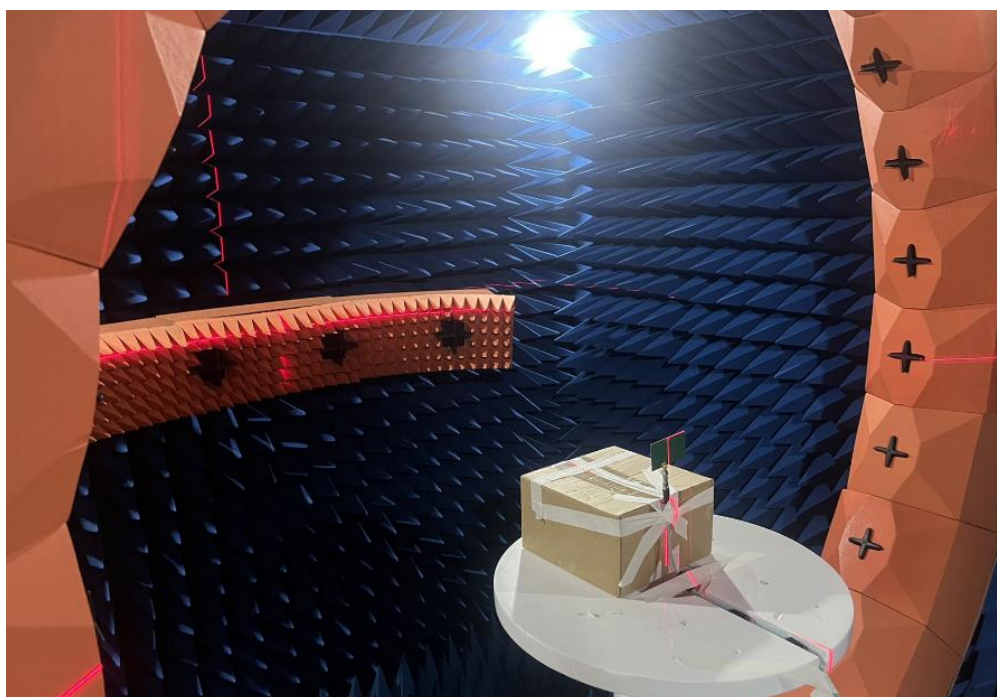
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Figure 6. MAN2450C50 Return Loss



Radiation Pattern & Efficiency & Peak Gain

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



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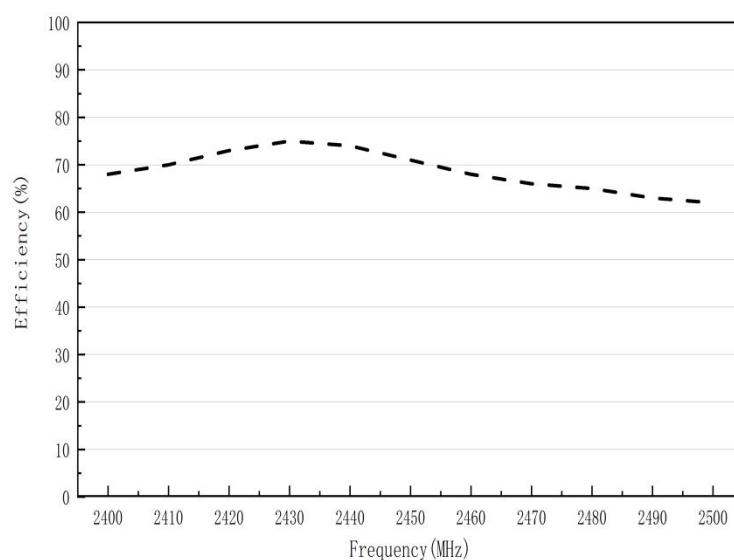


Table 4. MAN2450C50 Total Efficiency&Peak Gain

Item (MHz)	Efficiency (%)	Peak Gain (dBi)	Avg gain (dB)
2400	68	1.30	-1.70
2410	70	1.34	-1.56
2420	73	1.60	-1.37
2430	75	2.05	-1.26
2440	74	1.68	-1.31
2450	71	1.23	-1.47
2460	68	1.57	-1.65
2470	66	1.72	-1.78
2480	65	1.33	-1.88
2490	63	0.65	-2.00
2500	62	0.30	-2.10

*Antenna performance can also vary across different demo boards and in different environments. It is recommended to consult the relevant technical personnel to confirm the layout before use to ensure optimal performance.

Figure 8. MAN2450C50 Total Efficiency



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Figure 9. MAN2450C50 Peak Gain

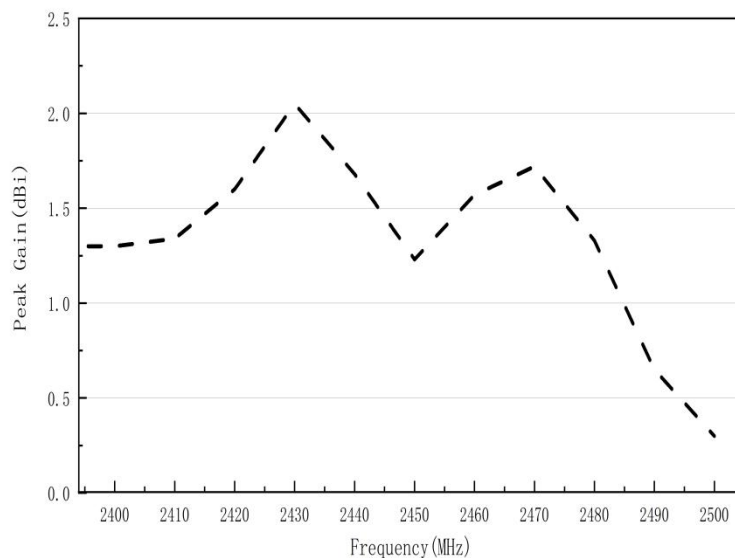
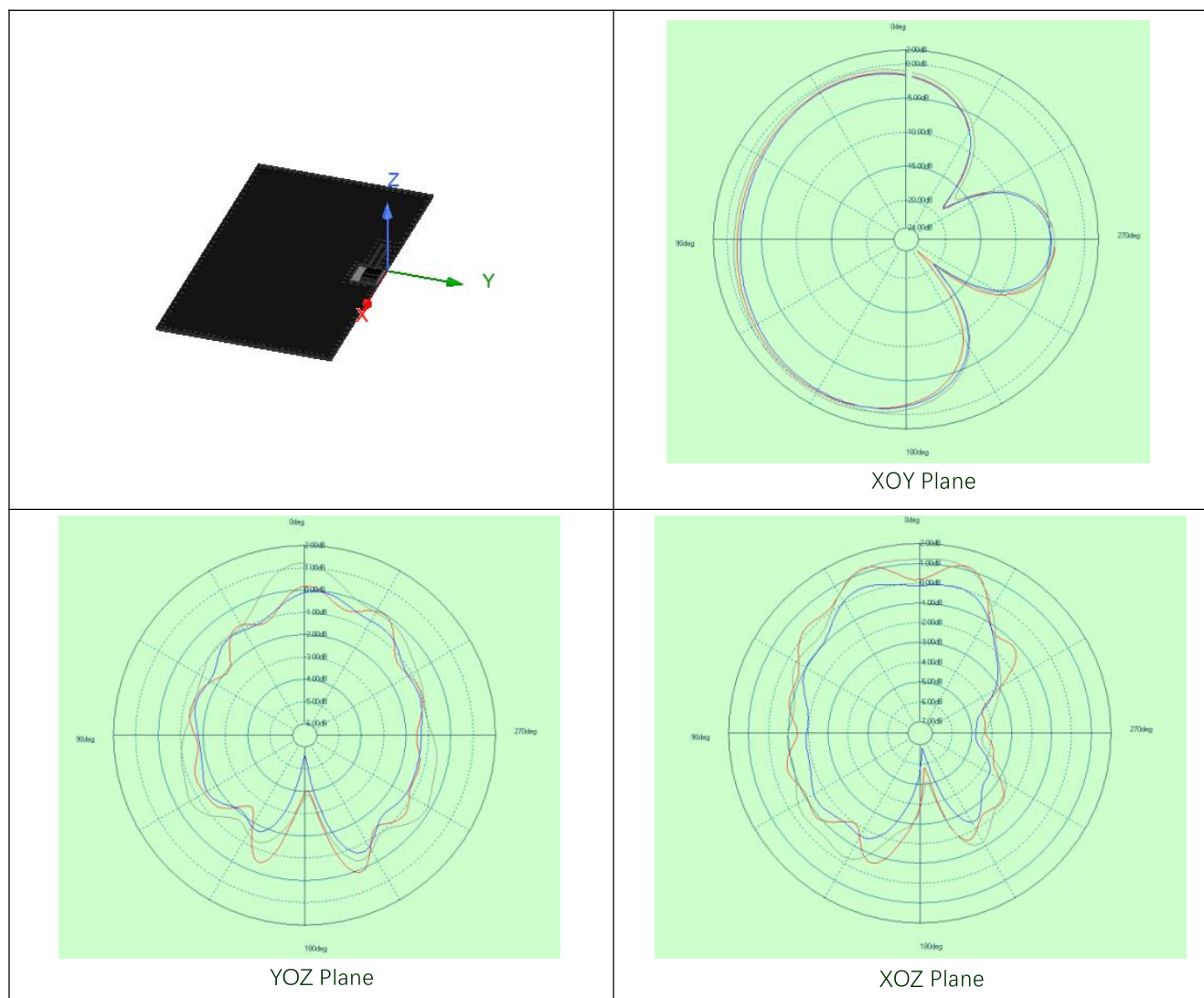


Figure 10. Radiation Pattern



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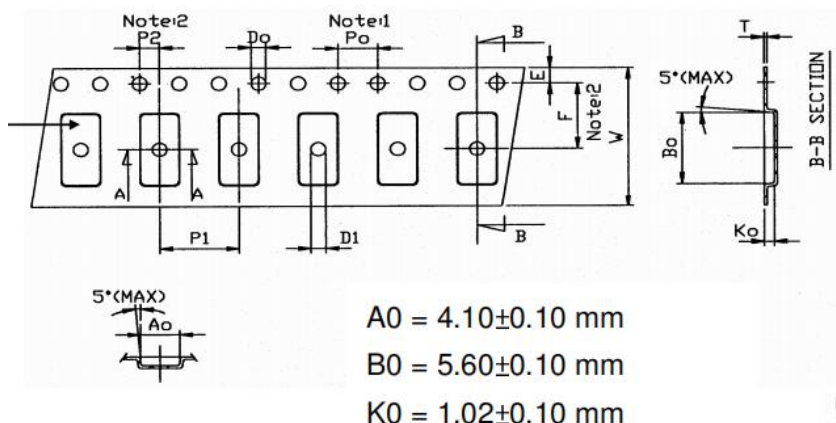


Packaging and Ordering Information

Figure 11. Packaging Information

Quantity/Reel: 2000pcs/Reel
Carrier tape dimensions

(Unit: mm)



Symbol	Spec.
P0	4.00 ± 0.1
P1	8.00 ± 0.1
P2	2.00 ± 0.05
D0	1.55 ± 0.05
D1	$1.50 (\text{MIN})$
E	1.75 ± 0.1
F	5.50 ± 0.05
10P0	40.00 ± 0.2
W	12.00 ± 0.1
T	0.25 ± 0.05

Notice:

1. 10 Sprocket hole pitch cumulative tolerance is ± 0.1 mm
2. Pocket position relative to sprocket hole measured as true position of pocket not pocket hole.
3. A0 & B0 measured on a plane 0.3mm above the bottom of the pocket to top surface of the carrier.
4. K0 measured from a plane on the inside bottom of the pocket to the top surface of the carrier.
5. Carrier camber shall be not than 1mm per 100mm through a length of 250mm.

Table 5. Packaging and Shipping

Device	Packaging	Reel	Shipping
MAN2450C50	SMD	7"	1500/Reel

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Revision	Description	Date
Rev0	Preliminary	2023/9/5
Rev1	formality	2024/12/31

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