

2. Features

- *Stable and reliable in performances
- *Low temperature coefficient of frequency
- *Miniature size
- *RoHS compliance
- *SMD type

3. Applications

- *Bluetooth earphone systems
- *Hand-held devices when Bluetooth/WiFi functions are needed, e.g., Smart phone.
- *Wireless PCMCIA cards or USB dongle.
- *IEEE802.11 b/g
- *ZigBee

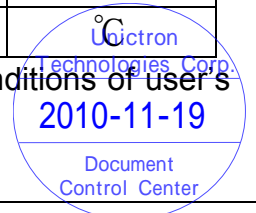
4. Description

Unictron's chip antenna series are specially designed for Bluetooth/WiFi applications. Based on Unictron's proprietary design and processes, this chip antenna has excellent stability and sensitivity to consistently provide high signal reception efficiency.

5. Electrical Specifications (On 100x55 mm Ground Plane)

Characteristics		Specifications	Unit
Outline Dimensions		5x2.2x1.6	mm
Ground Plane		100x55	mm
Center Frequency*		2450	MHz
Bandwidth (under -10dB return loss)		100 min.	MHz
VSWR		2 max.	
Impedance		50	Ω
Polarization		Linear	
Gain	Peak	3.1(typical)	dBi
	Average	-2.5(typical)	
Pattern		Omni	
Operating Temperature		-40 ~ +85	

*Center frequency will be offset to working frequency according to the conditions of user's ground plane and radome.



Tolerances (Unless otherwise specified)

X : ± 1 X.X : ± 0.1 X.XX : ± 0.01

Angle : ± Hole Dia. : ±

Scale : Unit : mm

Drawn By : Gilespi Checked By : Jason

Designed By : Simon Approved By : Jaixing



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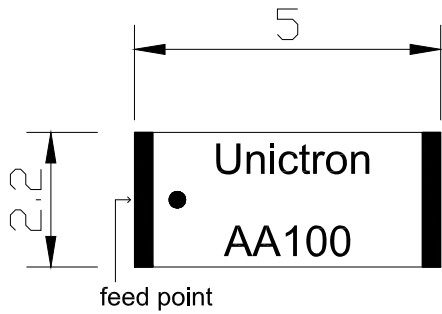
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6. Antenna Dimensions & Test Board

a. Antenna Dimensions



Vertical View



Front View

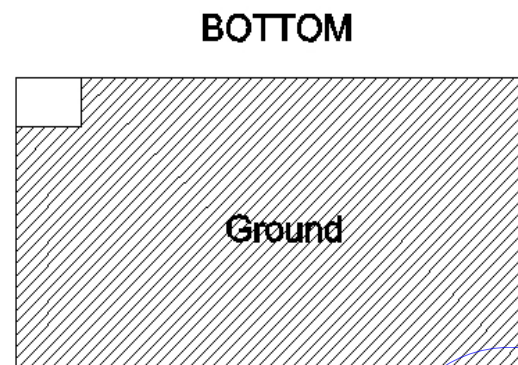
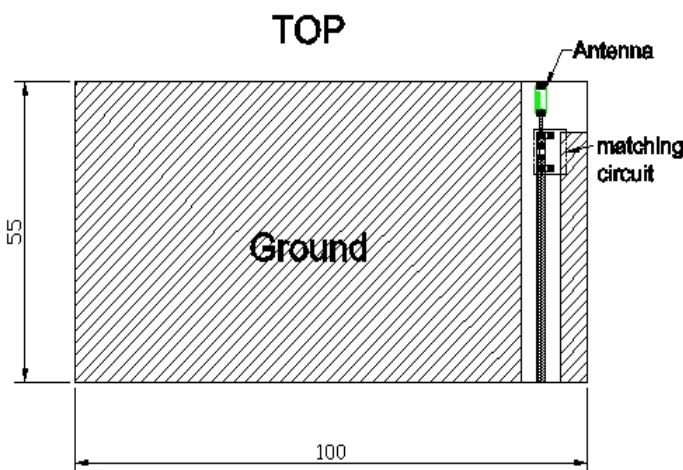


Side View

Unit:mm

b. Test Board with Antenna

(a). Type A



Unit:mm

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Tolerances (Unless otherwise specified)

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Angle : \pm Hole Dia. : \pm

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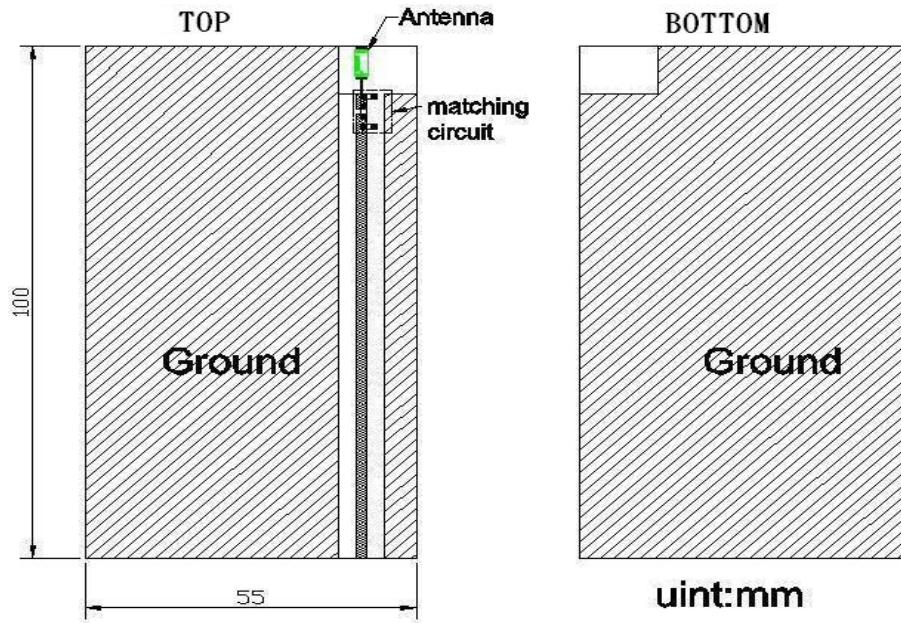
**TITLE : 5x2.2x1.6 Bluetooth/Wi-Fi Chip
Antenna (AA100)**

**DOCUMENT
NO.**

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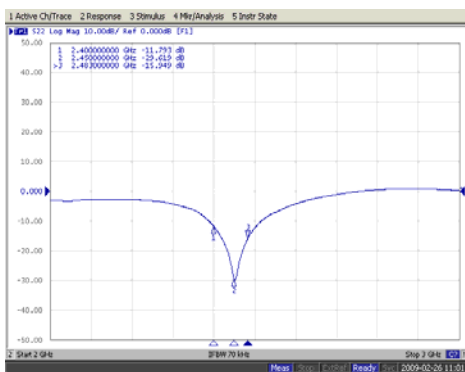
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(b). Type B

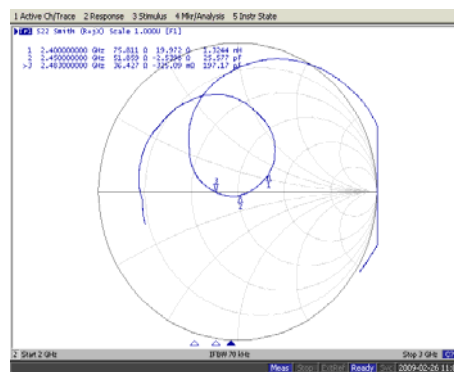


7. Electrical Characteristics (On 100x55 mm ground plane)

a. Type A



Return Loss(S₁₁)



Smith Chart



Tolerances (Unless otherwise specified)

X: ± 1 X.X: ± 0.1 X.XX: ± 0.01

Angle: ± Hole Dia.: ±

Scale: Unit: mm

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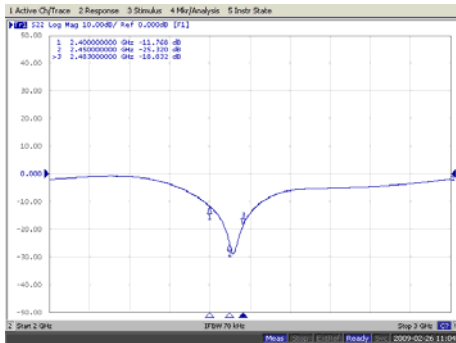
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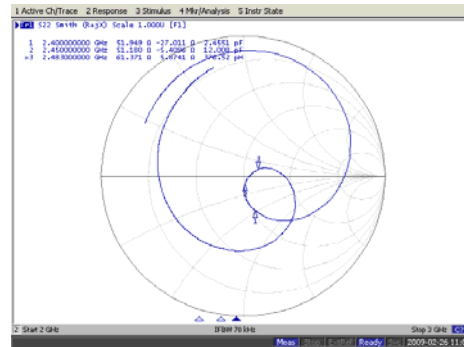
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b. Type B

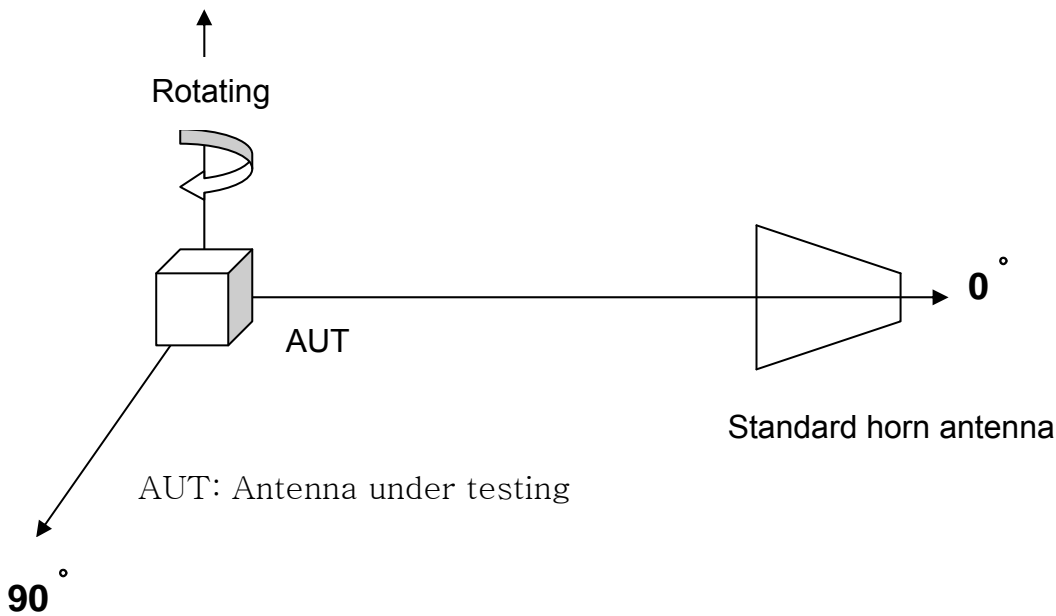


Return Loss(S₁₁)



Smith Chart

8. Radiation Pattern (On 100x55 mm ground plane)

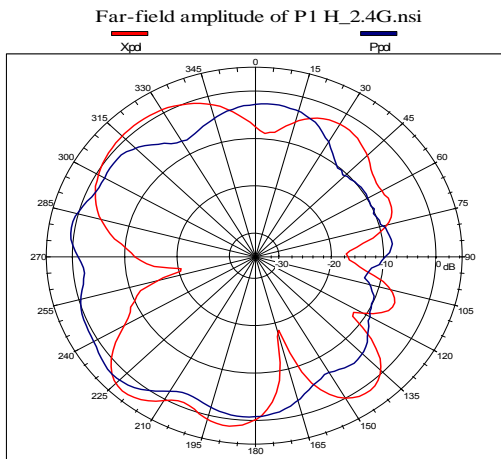


Tolerances (Unless otherwise specified)	
X : ± 1	X.X : ± 0.1 X.XX : ± 0.01
Angle : ±	Hole Dia. : ±
Scale :	Unit : mm
Drawn By : Gilespi	Checked By : Jason
Designed By : Simon	Approved By : Jaixing
TITLE : 5x2.2x1.6 Bluetooth/Wi-Fi Chip Antenna (AA100)	

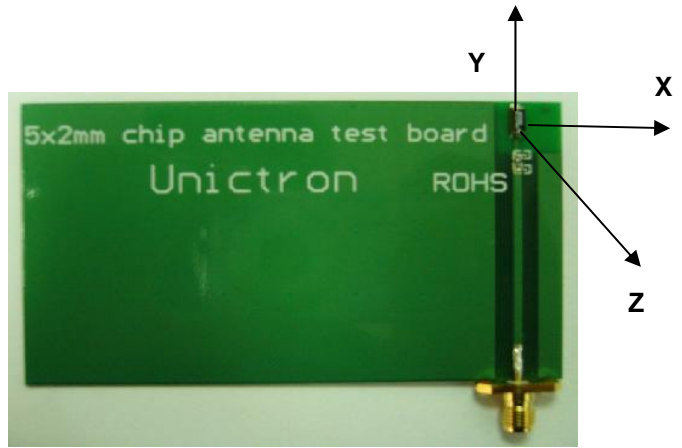
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		A
DOCUMENT NO.	H2U762GKBA0100	

a. Type A

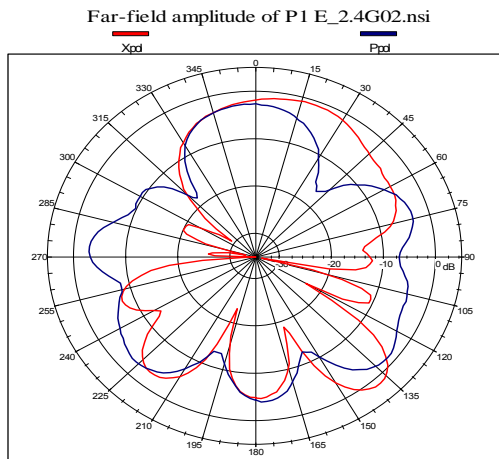
XZ



(Peak Gain =5.29 dBi, Average Gain -1.1dBi)

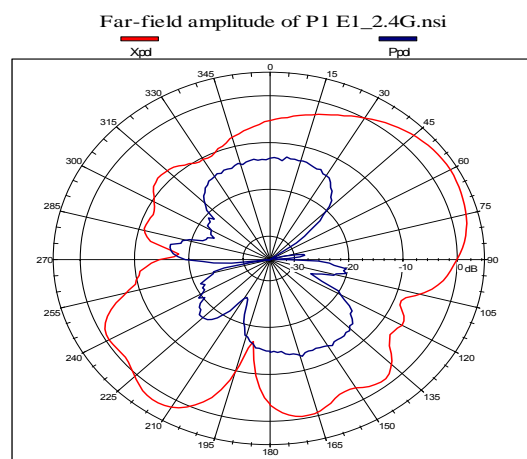


YZ



(Peak Gain =2.29 dBi, Average Gain -3.97dBi)

XY



(Peak Gain =3.35 dBi, Average Gain -4.11dBi)

Source signal: Linearly polarized signal $f_0 = 2450$ MHz

Gain Table: Total power=Xpol +Ppol

Plane	XZ	YZ	XY
Peak Gain(dBi)	5.29	2.29	3.35
Average Gain(dBi)	-1.1	-3.97	-4.11

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Tolerances (Unless otherwise specified)

X : ± 1 X.X : ± 0.1 X.XX : ± 0.01

Angle : ± Hole Dia. : ±

Scale : Unit : mm

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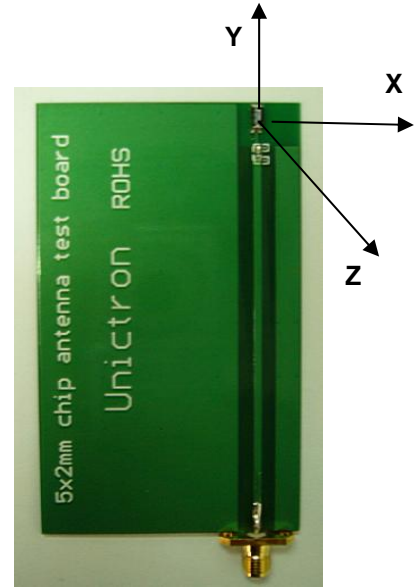
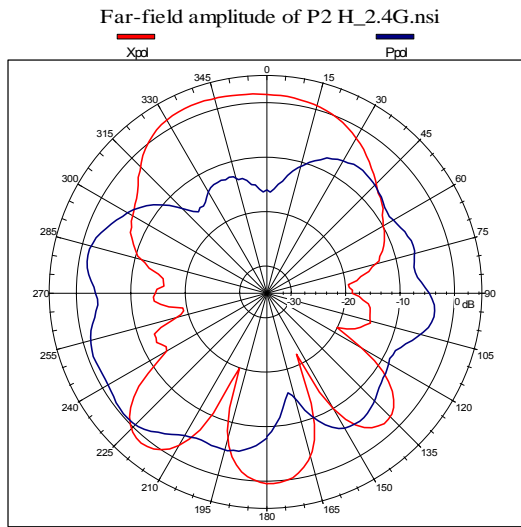
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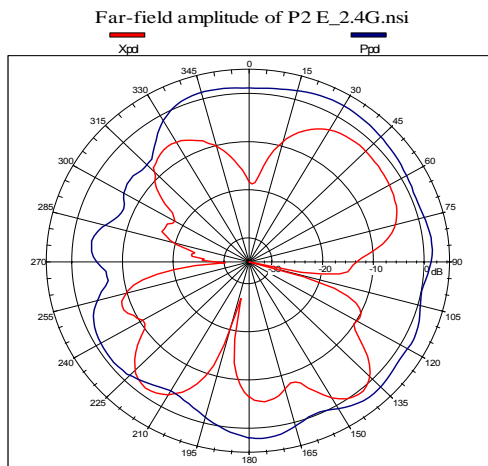
b. Type B

XZ



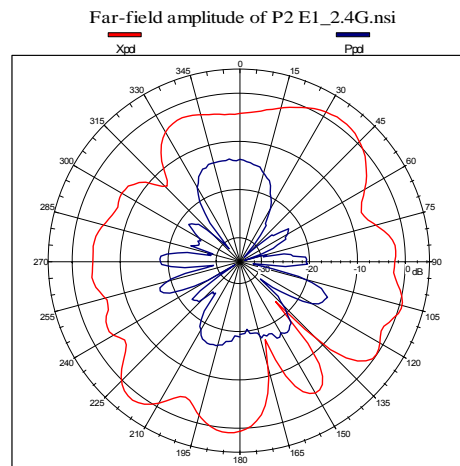
(Peak Gain =2.28 dBi, Average Gain -2.16dBi)

YZ



(Peak Gain =3.98 dBi, Average Gain -0.02dBi)

XY



(Peak Gain =1.42 dBi, Average Gain -3.8dBi)

Source signal: Linearly polarized signal $f_0 = 2450$ MHz

Gain Table: Total power=Xpol +Ppol

Plane	XZ	YZ	XY
Peak Gain(dBi)	2.28	3.98	1.42
Average Gain(dBi)	-2.16	-0.02	-3.8

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Tolerances (Unless otherwise specified)

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Angle : ± Hole Dia. : ±

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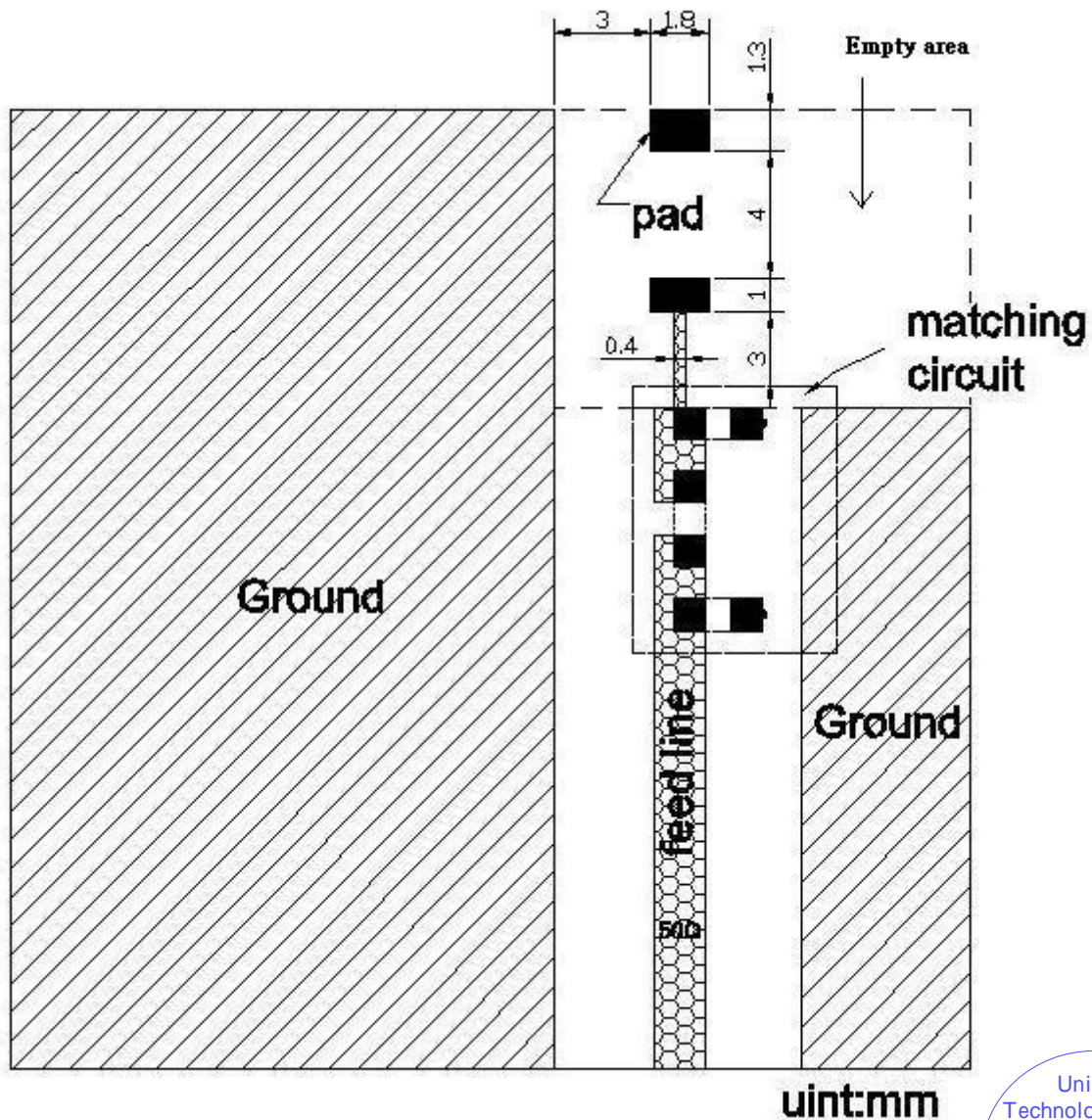
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9. Layout Guide:

a. Solder Land Pattern:

Land pattern for soldering (black marking areas) is as shown below. Depending on Customer's requirement, matching circuit as shown below is also recommended .



Tolerances (Unless otherwise specified)

X : ± 1 X.X : ± 0.1 X.XX : ± 0.01

Angle : \pm Hole Dia. : \pm

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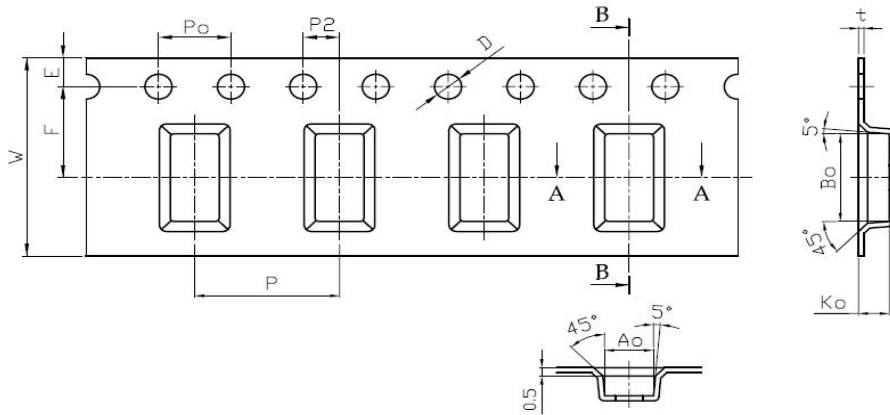
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10. Packing:

- (1) Quantity/Reel: 3000pcs/Reel
- (2) Plastic tape:



1. Cumulative tolerance of 10 sprocket hole pitch: $\pm 0.20\text{mm}$
2. Carrier camber not to exceed 1mm in 250mm
3. A_o and B_o measured on a plane 0.3mm above the bottom of the pocket.
4. K_o measured from a plane on the inside bottom of the pocket to the top surface of the carrier.
5. All dimensions meet EIA-481-B requirements.
6. Material: Clear Non Anti-Static Polystyrene.
 Black Conductive Polystyrene.

2.1 Tape Dimensions(unit: mm)

Feature	Specifications	Tolerances
W	12.00	± 0.30
P	8.00	± 0.10
E	1.75	± 0.10
F	5.50	± 0.10
P2	2.00	± 0.10
D	1.50	+0.10 -0.00
Po	4.00	± 0.10
10Po	40.00	± 0.20


2.2 Pocket Dimensions(unit: mm)

Feature	Specifications	Tolerances
A_o	2.70	± 0.10
B_o	5.30	± 0.10
K_o	1.70	± 0.10
t	0.30	± 0.05

11. Storage Conditions:

- (1) Temperature: -25°C to 85°C
- (2) Relative Humidity: 20% to 70%



Tolerances (Unless otherwise specified) X : ± 1 X.X : ± 0.1 X.XX : ± 0.01 Angle : \pm Hole Dia. : \pm		 Unictron Technologies Corporation Website: www.unictron.com		
Scale :	Unit : mm	THIS SPECIFICATION IS THE PROPERTY OF UNICTRON TECHNOLOGIES CORPORATION AND SHALL NOT BE REPRODUCED OR USED IN ALL CIRCUMSTANCES WITHOUT WRITTEN PERMISSION		
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