

# GEMINI-2 GPS/BT SMD Antenna

Part No. GA187016BGL02



## Product Specification



Dimension: 18mmx7mmx1.6mm

### ➤ Applications

- Smart phone
- Tablets
- Tracking Devices
- GPS modules
- Wireless Dongles
- Wireless Modules
- Automotive

### ➤ Features

- Designed for GPS and 2.4GHz applications
- Dual-feed antenna, high isolation
- High efficiency
- Linear Polarization
- Omni- Directional ( *PCB dimension dependent* )
- Minimum PCB clearance
- Flexible placement on PCB edge
- SMD mounting
- Low Profile, miniature and light weight
- Tape and reel packaging
- RoHS Compliance

### ➤ Customer Services (Optional)

- EM Antenna Simulation for optimum placement of antenna on PCB.
- Lump Elements Matching for optimum antenna performance.
- Anechoic Chamber Measurement for antenna performance validation.

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## ➤ Specification

ELECTRICAL		
Frequency	1570MHz ~ 1580MHz	2400MHz ~ 2500MHz
S11	< -15dB	< -15dB
VSWR	< 1.5:1	< 1.5:1
Peak Gain	0.5 dBi	3.4 dBi
Polarization	Linear	Linear
Impedance	50 Ohms	50 Ohms
Efficiency	50%	60%
Radiation Pattern	Omni	Omni
Isolation	< -20dB	
MECHANICAL		
Dimension	18mm x 7mm x 1.6 mm	
Weight	0.4g	
ENVIROMENTAL		
Temperature Range	-25°C to +80°C	
Humidity	65°C 95% RH	

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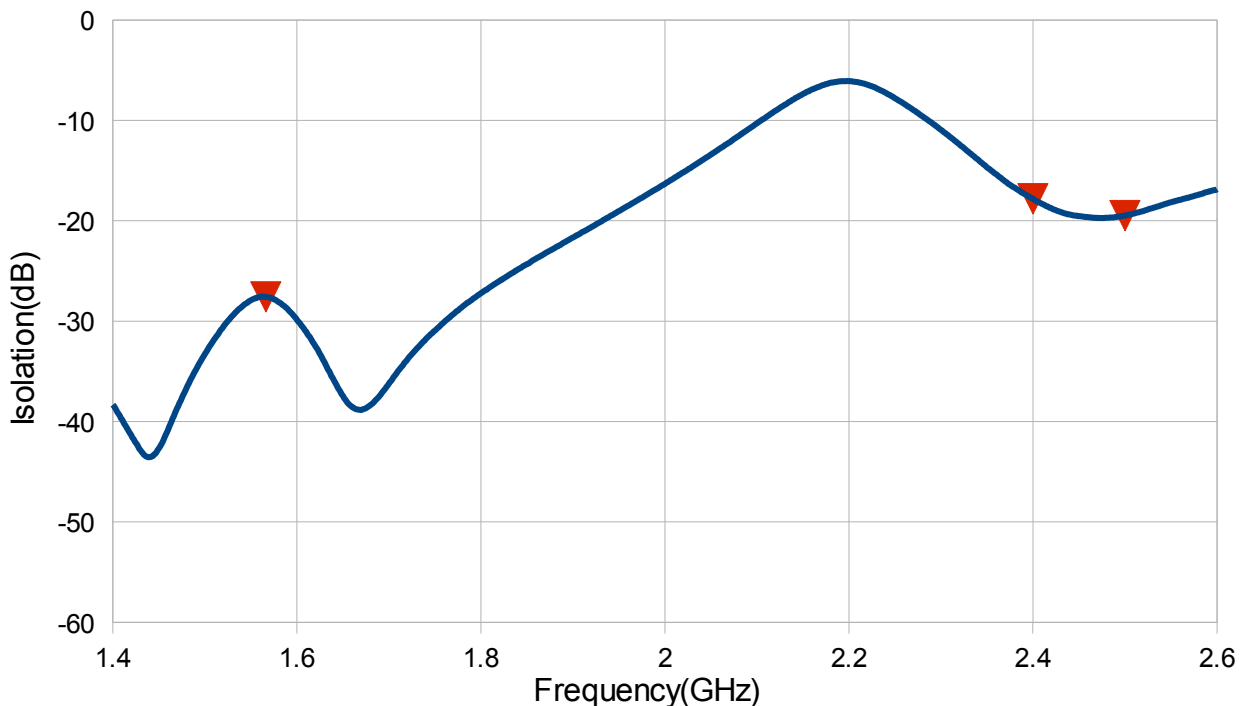
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## ➤ Antenna Performance with GEMINI\_RB12060S1 Reference Board

Frequency	Performance		Conditions
	1570MHz ~ 1580MHz	2400MHz ~ 2500MHz	
Peak Gain	<b>0.5 dBi</b>	<b>3.4 dBi</b>	All results measured from frequency range 1570MHz to 1580MHz and 2400MHz to 2500MHz on 120 x 60mm reference board, Part NO.: GEMINI_RB12060S1  *antenna efficiency without loss of transmission line
Average 3D Gain	<b>-3.0dBi</b>	<b>-2.22dBi</b>	
*Average Efficiency	<b>50%</b>	<b>60%</b>	
S11	<b>&lt; -15dB</b>	<b>&lt; -15dB</b>	
VSWR	<b>&lt; 1.5:1</b>	<b>&lt; 1.5:1</b>	
Isolation	<b>&lt; -18dB</b>		

## ● Isolation with GEMINI\_RB12060S1 Reference Board

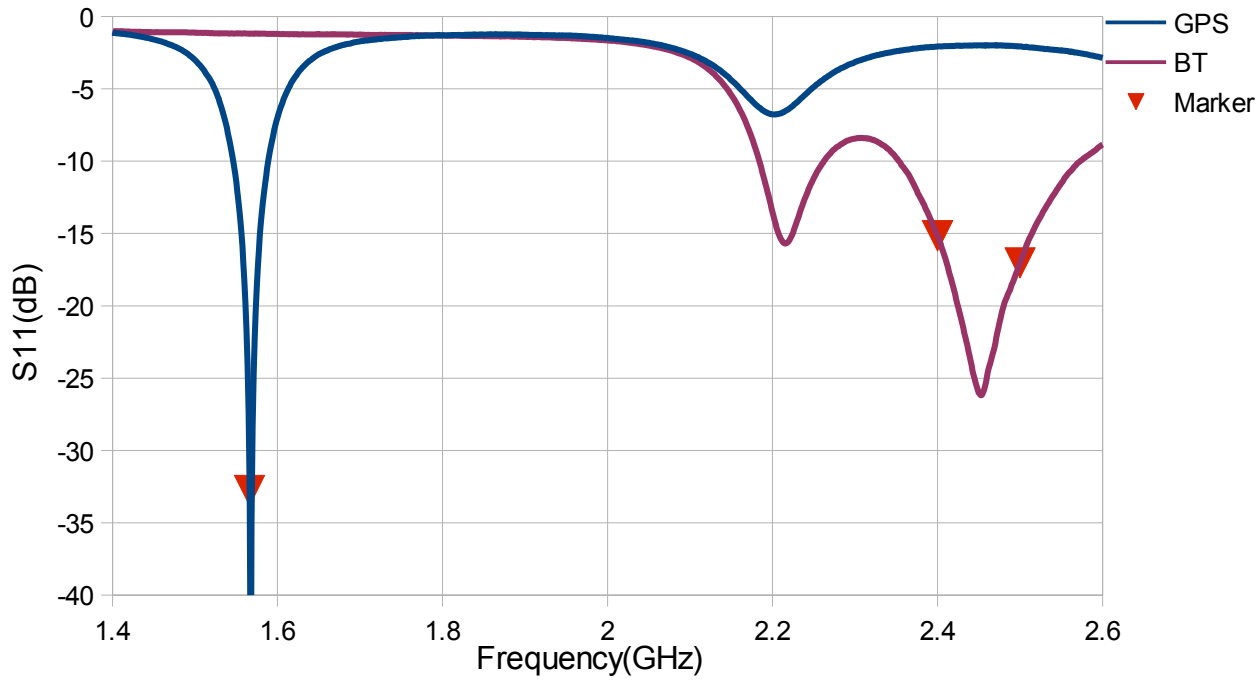


# GEMINI-2 GPS/BT SMD Antenna

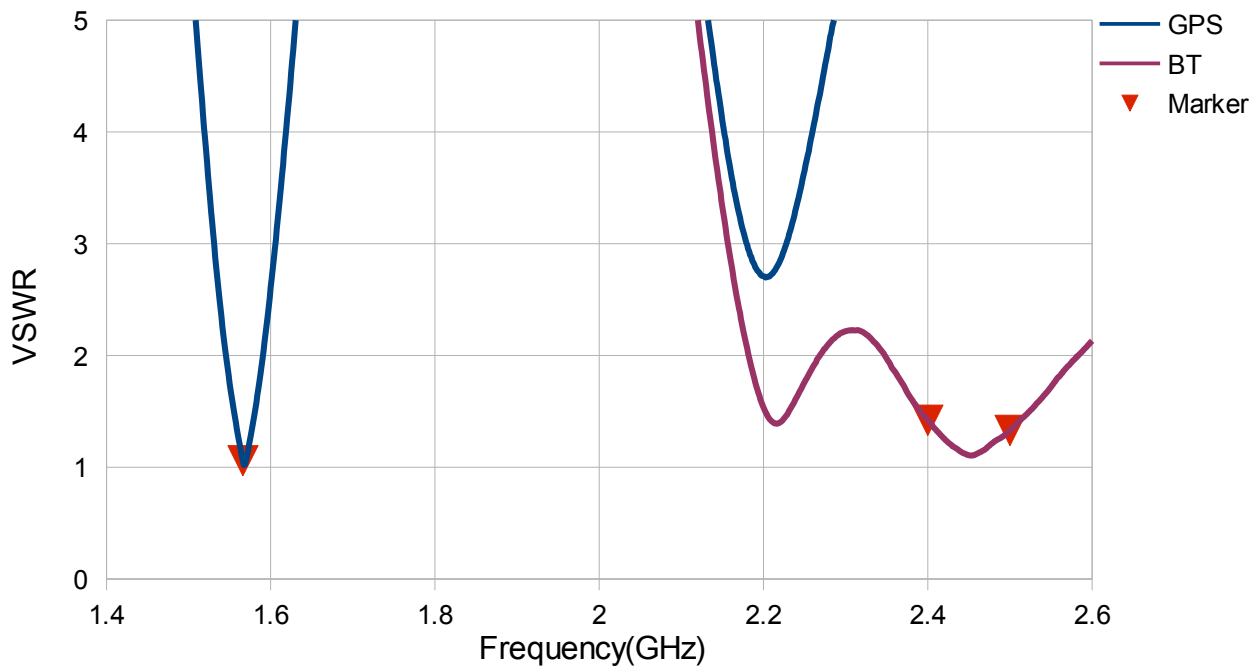
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## Return Loss with GEMINI\_RB12060S1 Reference Board



## VSWR with GEMINI\_RB12060S1 Reference Board



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- Performance with reference board (GEMINI\_RB12060S1)

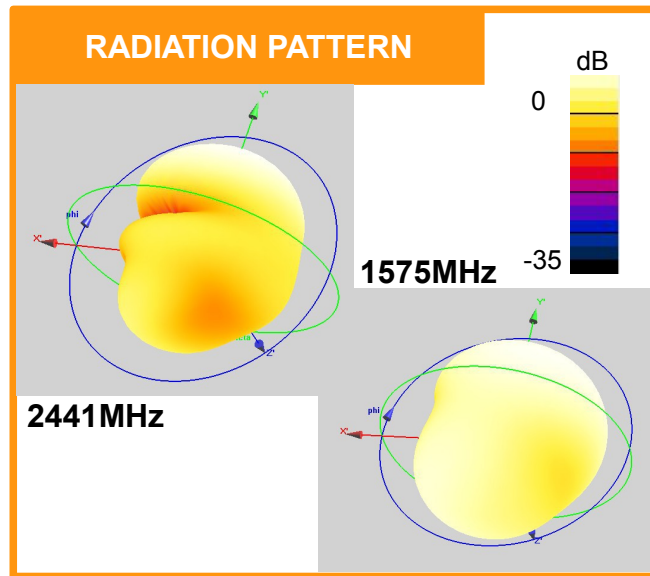
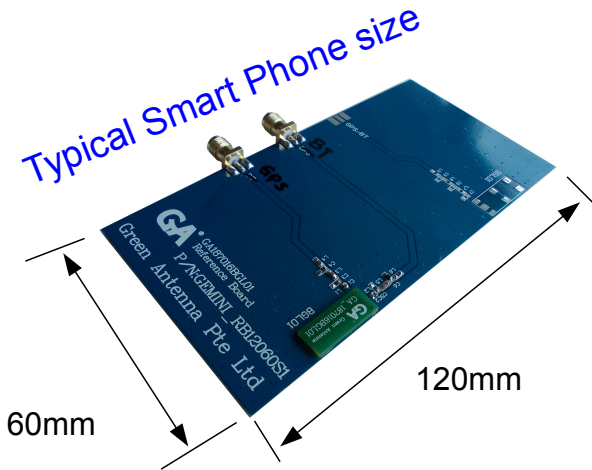
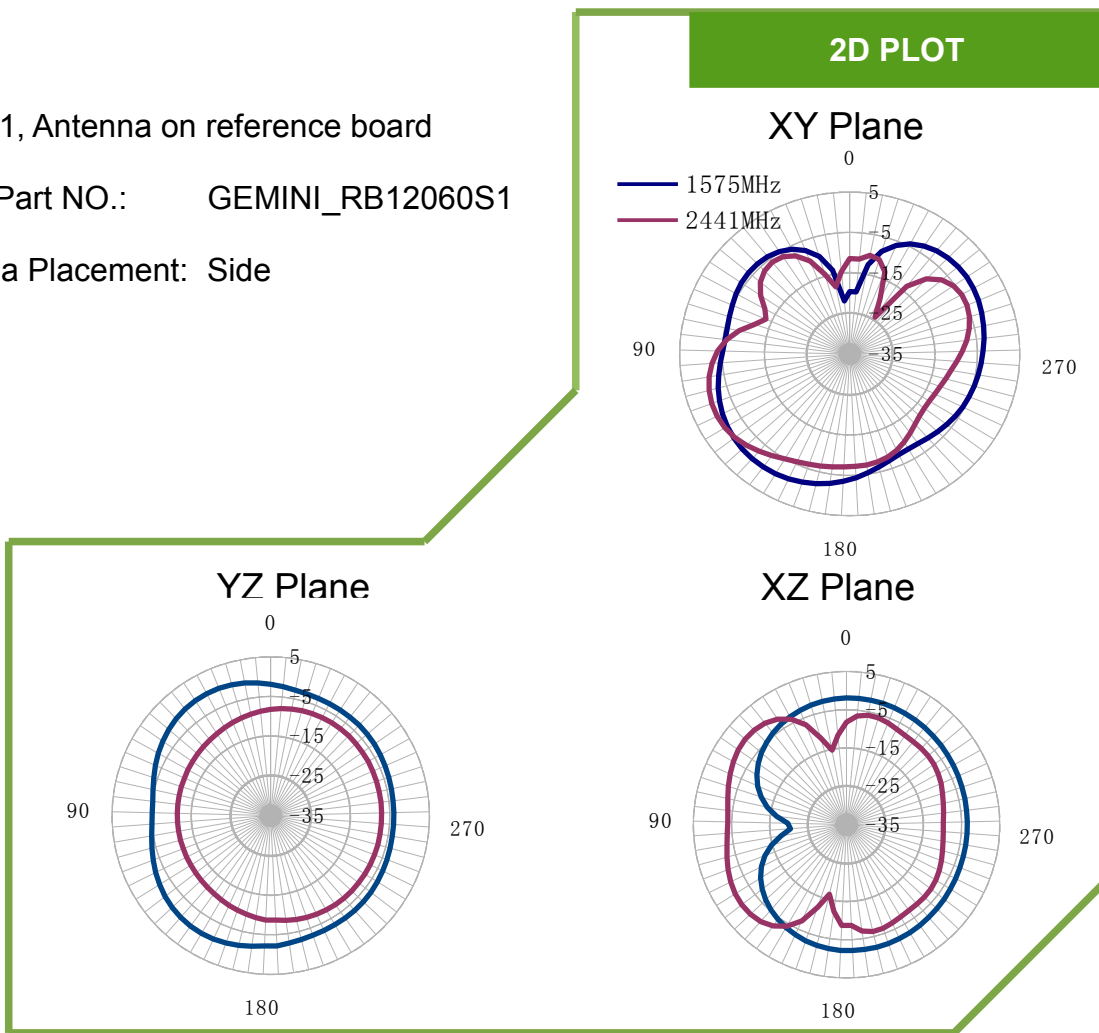


Figure 1, Antenna on reference board

Board Part NO.: GEMINI\_RB12060S1

Antenna Placement: Side



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## ➤ Antenna Dimension

### ● Overview

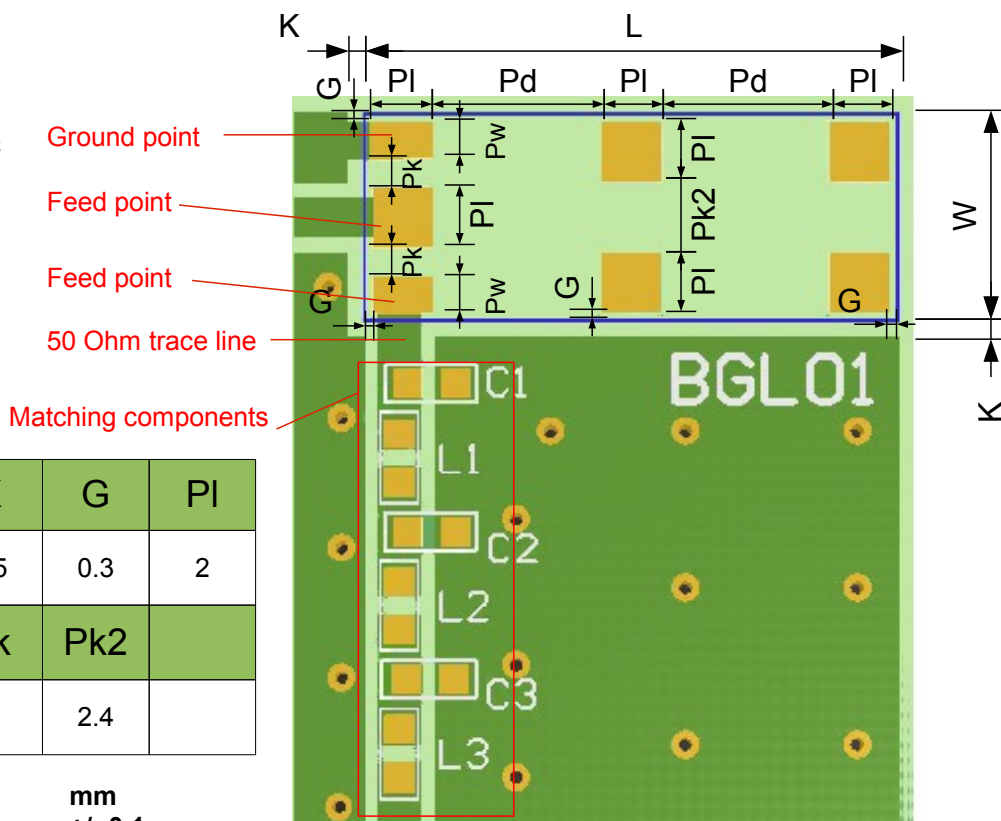


L	W	H
18	7	1.6

Unit : mm  
Tolerance: +/- 0.2mm

### ● Layout with side feeding

- : PCB copper
- : PCB dielectric
- : Pads
- : Antenna Area



L	W	K	G	PI
18	7	0.5	0.3	2
Pd	Pw	Pk	Pk2	
5.7	1.2	1	2.4	

Unit : mm  
Tolerance: +/- 0.1mm

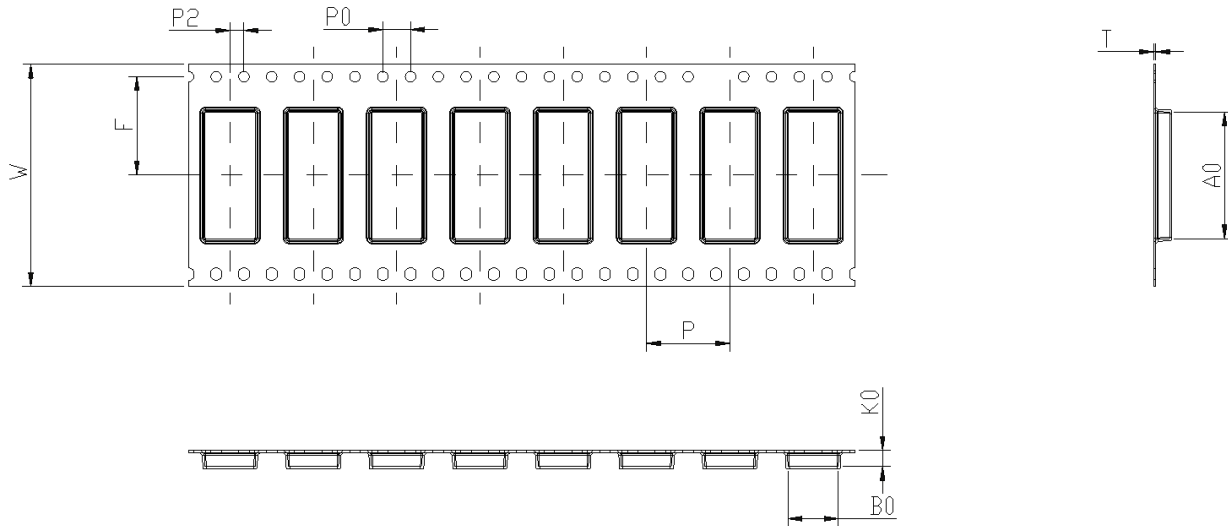
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## ➤ Tape Characteristics



W	F	P	P0	P2	T	A0	B0	K0
32.0±0.3	14.2±0.1	12.0±0.1	4.0±0.1	2.0±0.1	0.3±0.05	18.2±0.1	7.23±0.1	2.3±0.1

Unit : mm

Quantity	2000 pcs/reel
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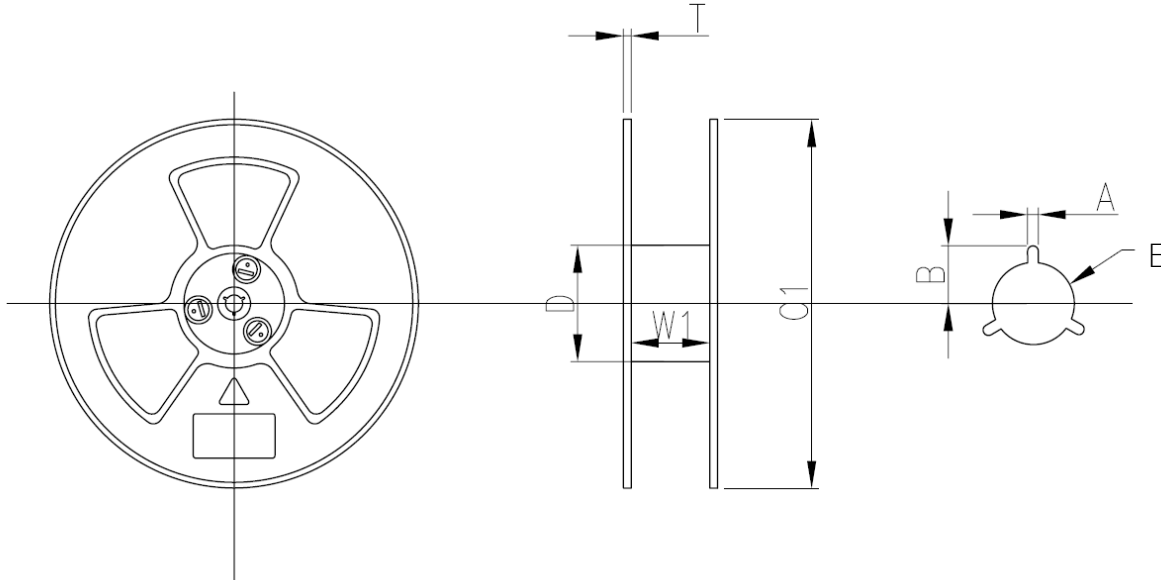
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## Reel Dimensions



W1	D	T	C1	A	B	E
32.4±2.0	99.5±2.0	2.2±0.3	330±1.0	2.3±0.3	10.75±0.3	13.0±0.5

Unit : mm

## Reel Label



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Description: Gemini-2  
Part Number: GA187016BGL02  
Qty: 2000 pcs  
Date Code:  
Manufacturers code number:

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