

# SAW DUPLEXER



ADUD-R-0004

Request Samples



Check Inventory



1.8 x 1.4 x 0.5 mm  
RoHS Compliant

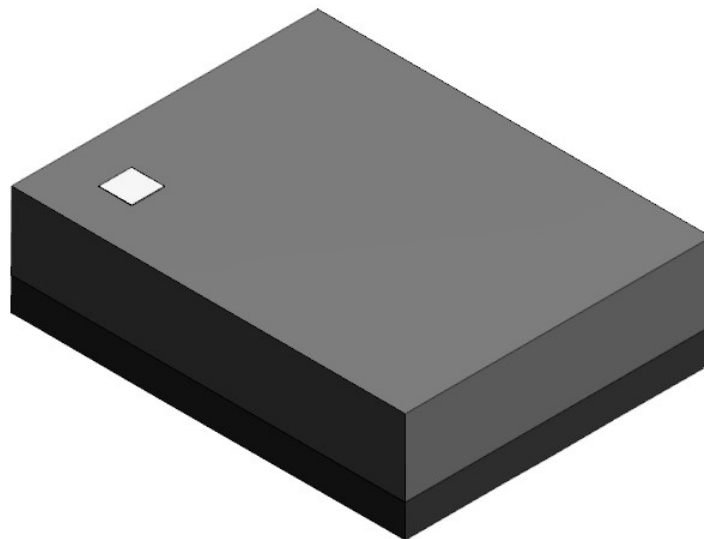
## Features

- LTCC duplexer supporting 777~787 / 746~756 MHz
- Small Form Factor 1.8 x 1.4 x 0.5 mm
- Low Insertion Loss
- VSWR as 1.6
- RoHS Compliant

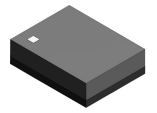
## Applications

- Wireless Infrastructure
- Military and Aerospace Applications
- Test Instrumentation
- Radar Systems
- 5G Wireless Communications
- Microwave Radio Systems
- TR Modules
- Research and Development
- Cellular Base Stations

## Product Image



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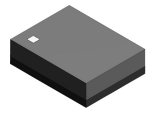
**1.8 x 1.4 x 0.5 mm**  
**RoHS Compliant**

## Electrical Specifications

Tx to Ant		Specifications			
Parameters Description	Condition [MHz]	Unit	Minimum	Typical	Maximum
Insertion Loss	777~787	dB	-	1.9	2.5
Ripple Deviation	777~787	dB	-	0.8	1.6
VSWR of Tx Port	777~787	-	-	1.6	2.0
VSWR of Ant. Port	777~787	-	-	1.6	2.0
Absolute Attenuation	746~756	dB	44	51	-
	758~768	dB	10	32	-
	1554~1565	dB	41	46	-
	1565~1607	dB	41	46	-
	2331~2361	dB	35	53	-
	2400~2484	dB	40	50	-
	3108~3148	dB	23	28	-
	3108~3148	dB	23	28	-
	4900~5950	dB	8	12	-

Ant to Rx		Specifications			
Parameters Description	Condition [MHz]	Unit	Minimum	Typical	Maximum
Insertion Loss	746~756	dB	-	1.6	2.3
Ripple Deviation	746~756	dB	-	0.4	1.0
VSWR of Rx Port	746~756	-	-	1.4	2.0
VSWR of Ant. Port	746~756	-	-	1.4	2.0
Absolute Attenuation	777~787	dB	50	62	-
	2400~2500	dB	40	45	-
	787~6000	dB	23	28	-

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Tx to Rx		Specifications			
Parameters Description	Condition [MHz]	Unit	Minimum	Typical	Maximum
Isolation	746~756	dB	55	60	-
	777~787	dB	58	63	-

Parameters Description	Unit	Minimum	Typical	Maximum
Maximum DC Voltage	V	±5V		
Input Power at Tx Port	dBm	29.0dBm, CW, +50°C, 50000h		
Antenna Impedance	Ω	50//12nH		
Tx Impedance	Ω	50		
Rx Impedance	Ω	50		

## Mechanical Specifications

Parameters	Specifications
Filter Dimension	1.8 x 1.4 x 0.5 mm
Mounting Type	SMD Mount

## Environmental Specifications

Parameters Description	Unit	Minimum	Typical	Maximum
Operating Temperature Range	°C	-30	-	+85
Package type	C62			

## Ordering Information

### Part Identification

ADUD-R-0004



Packaging
Blank: Bulk
T: Tape & Reel



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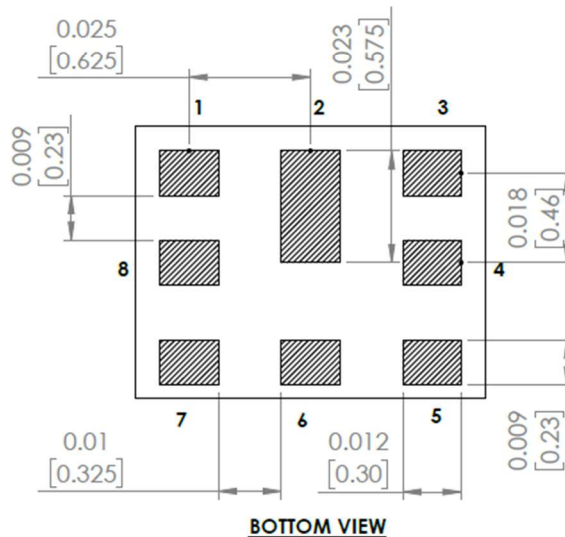
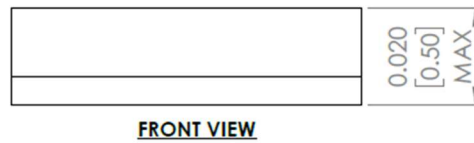
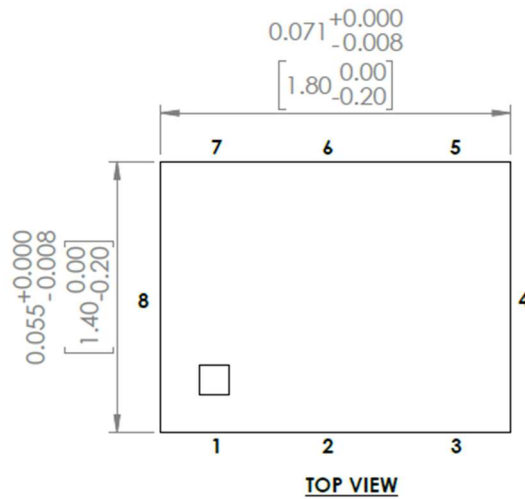


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## Package Dimensions



Pin Description	
1	Rx
3	Tx
6	Ant
2, 4, 5, 7, 8	Ground

**DIMENSIONS: INCHES [mm]**

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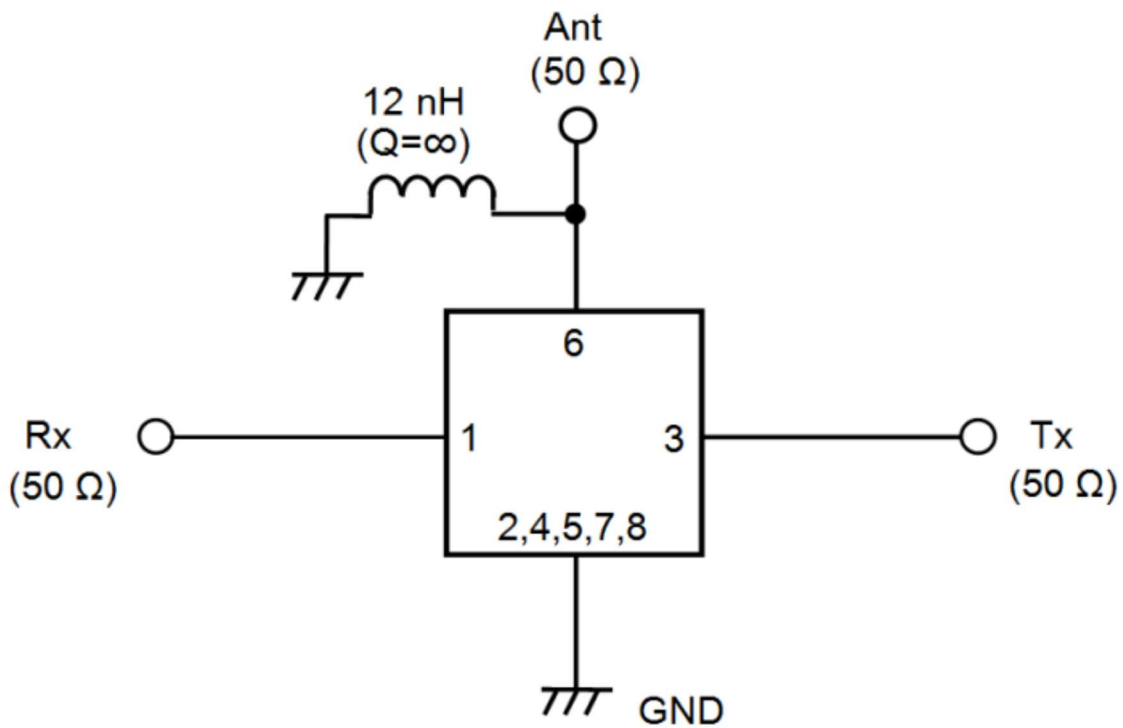


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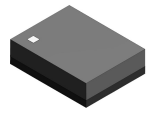
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## Testing Environment



1 to 8: Pin No.

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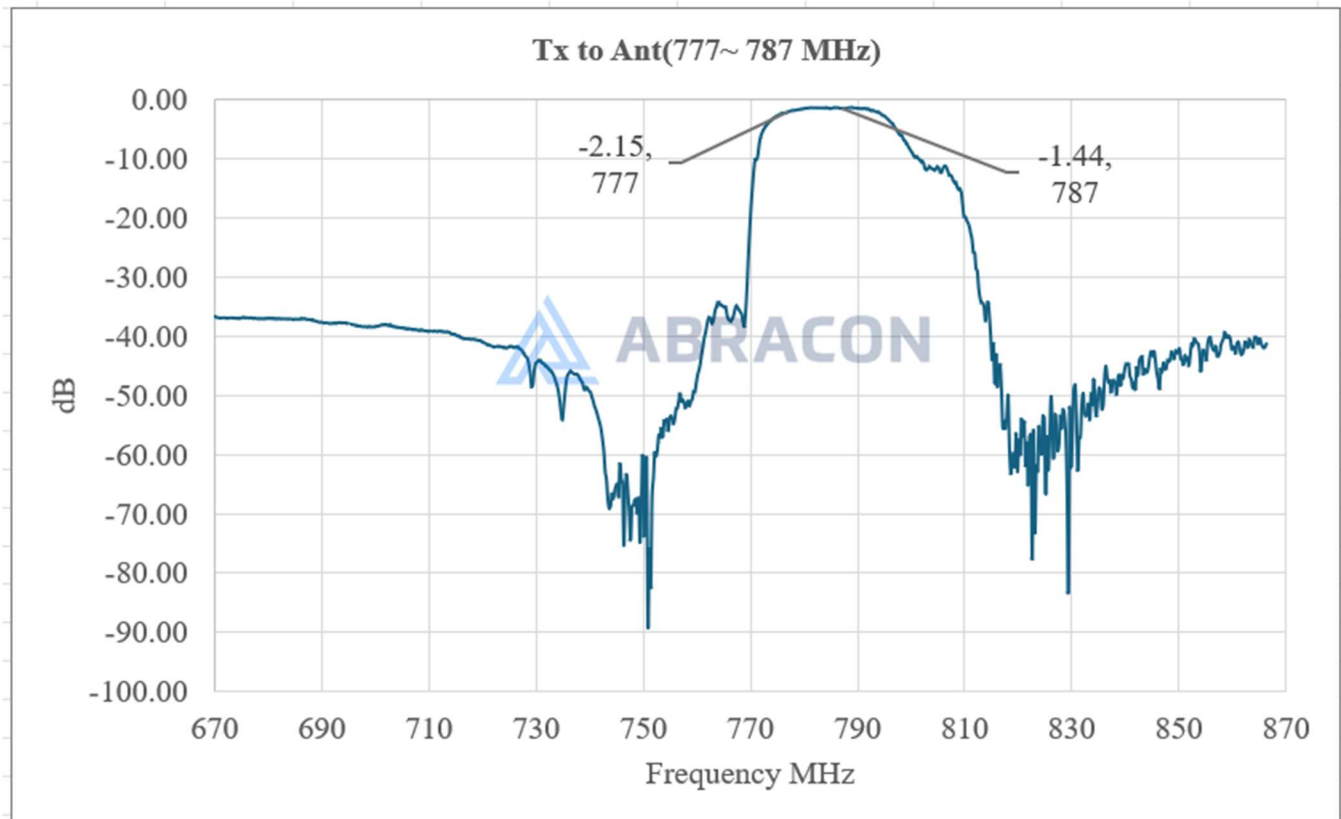
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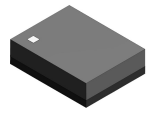
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## Frequency Characteristics

### Tx to Ant



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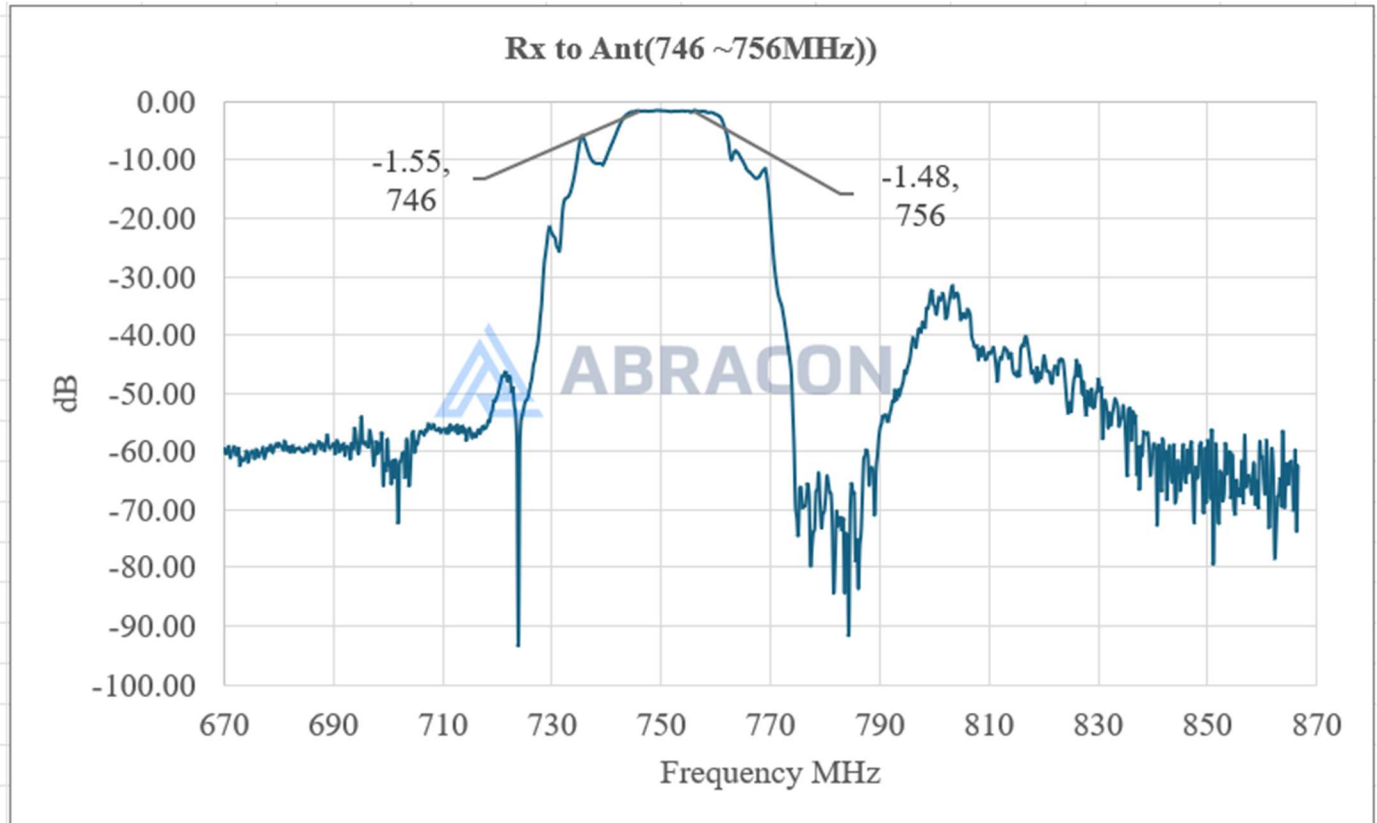


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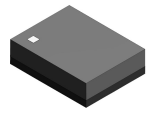


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Ant to Rx



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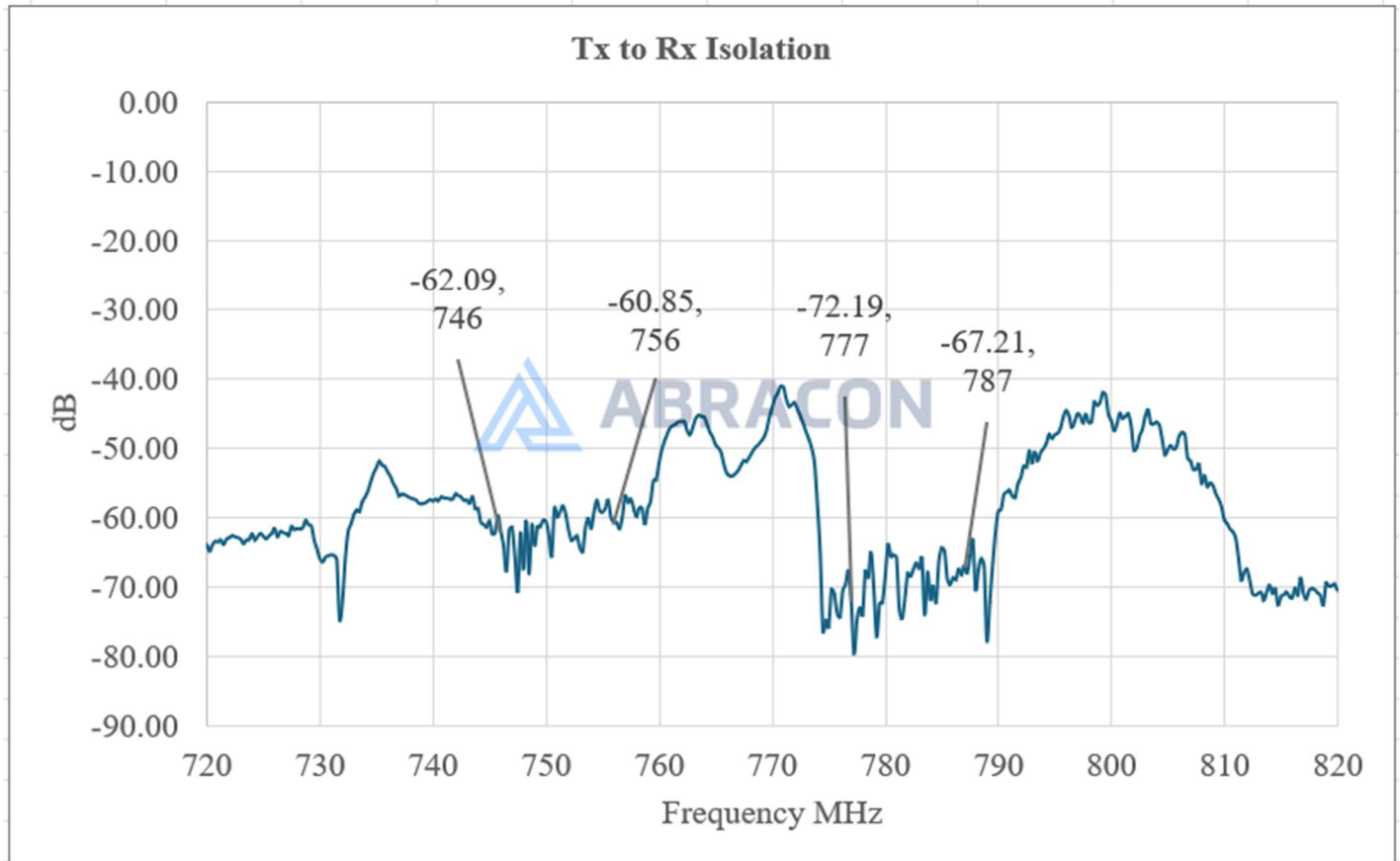


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## Tx to Rx Isolation





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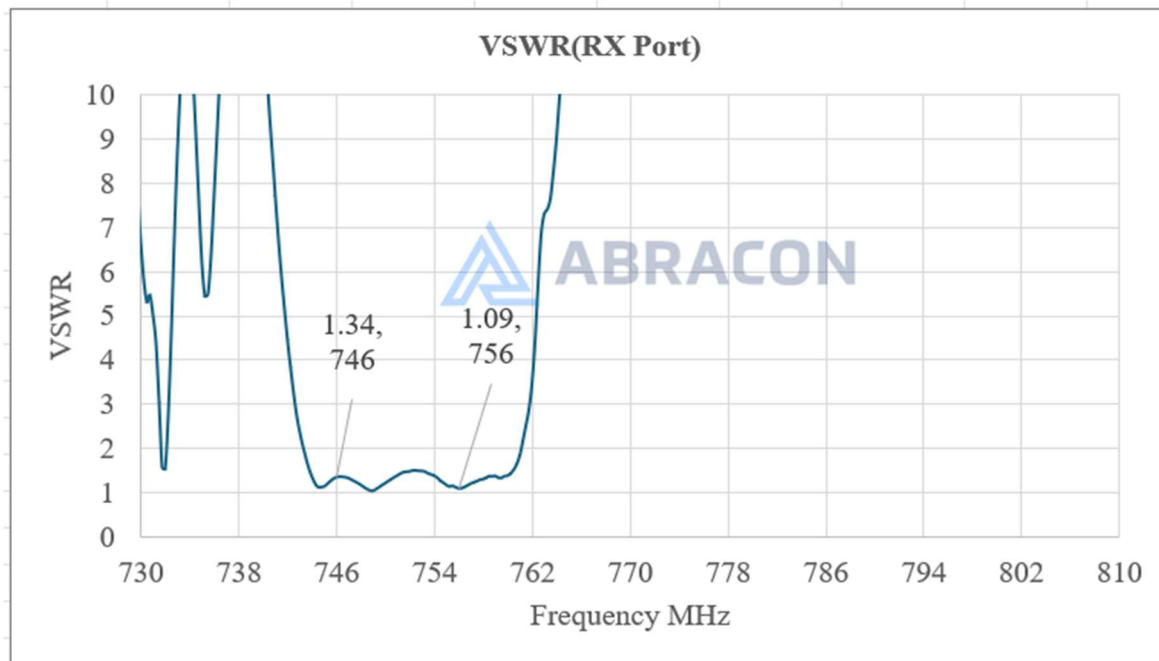


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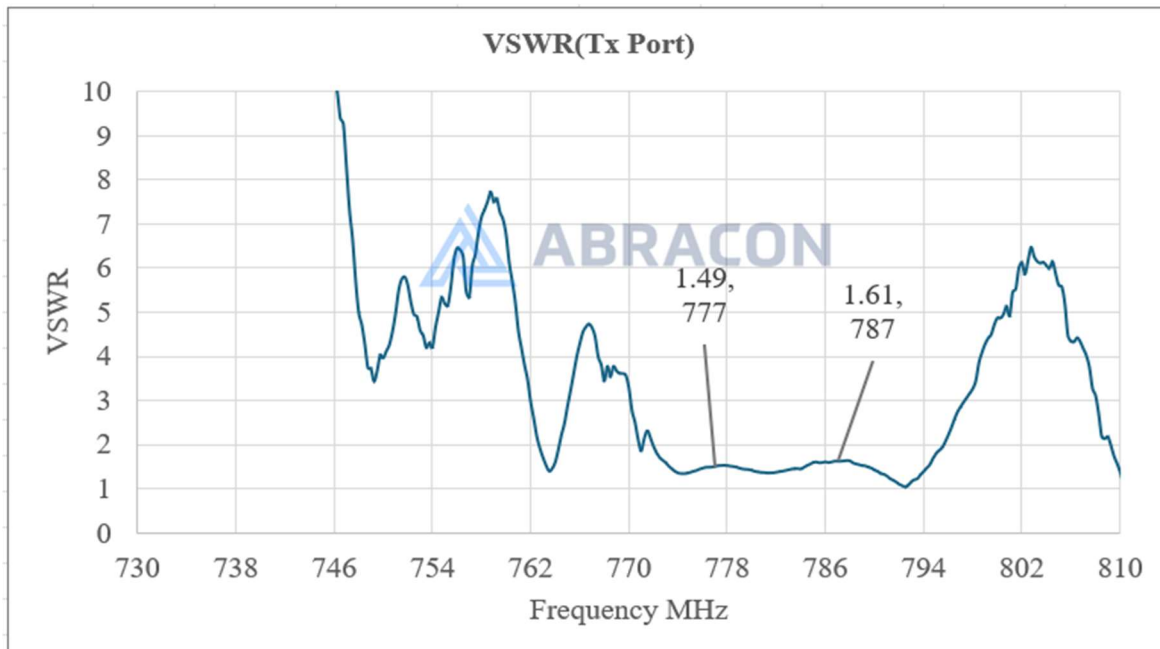


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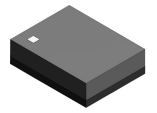
## VSWR (Rx Port)



## VSWR (Tx Port)



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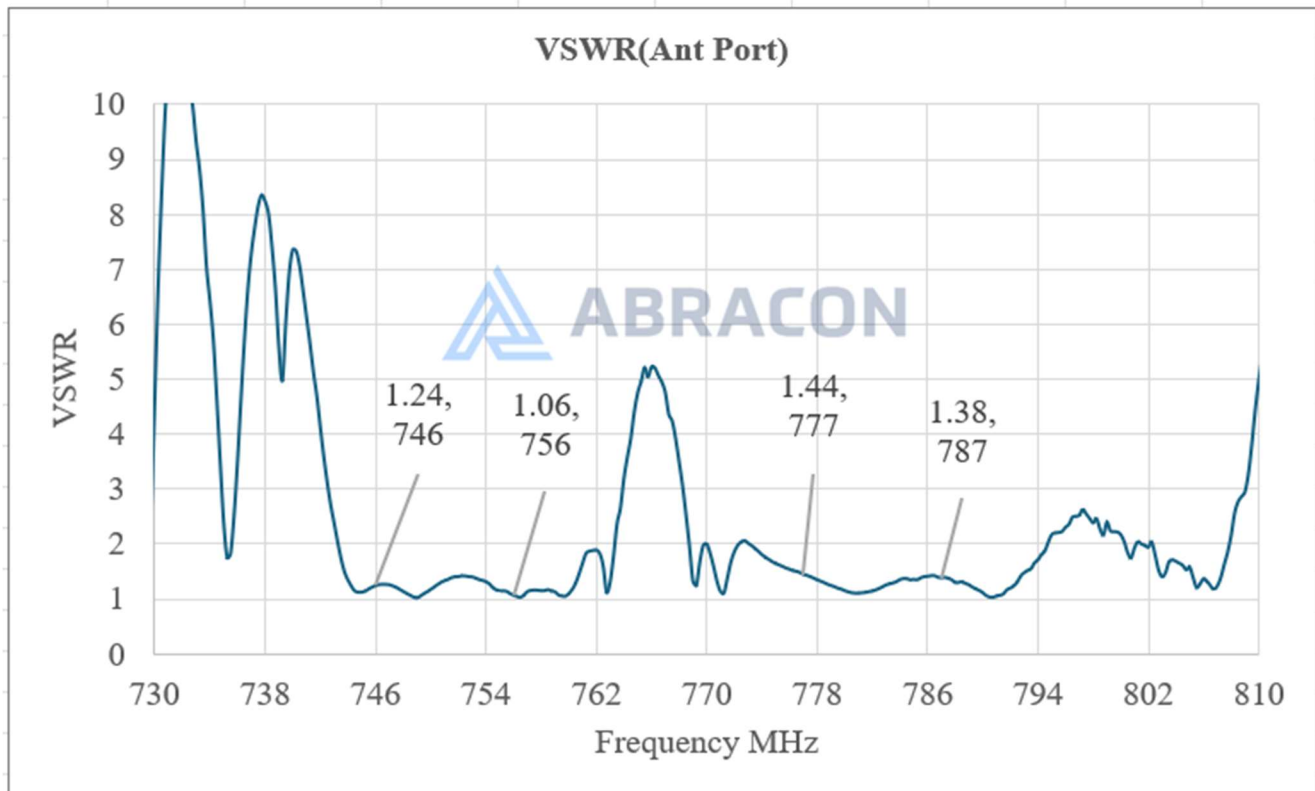


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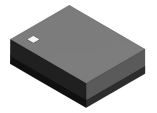


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## VSWR (Ant Port)



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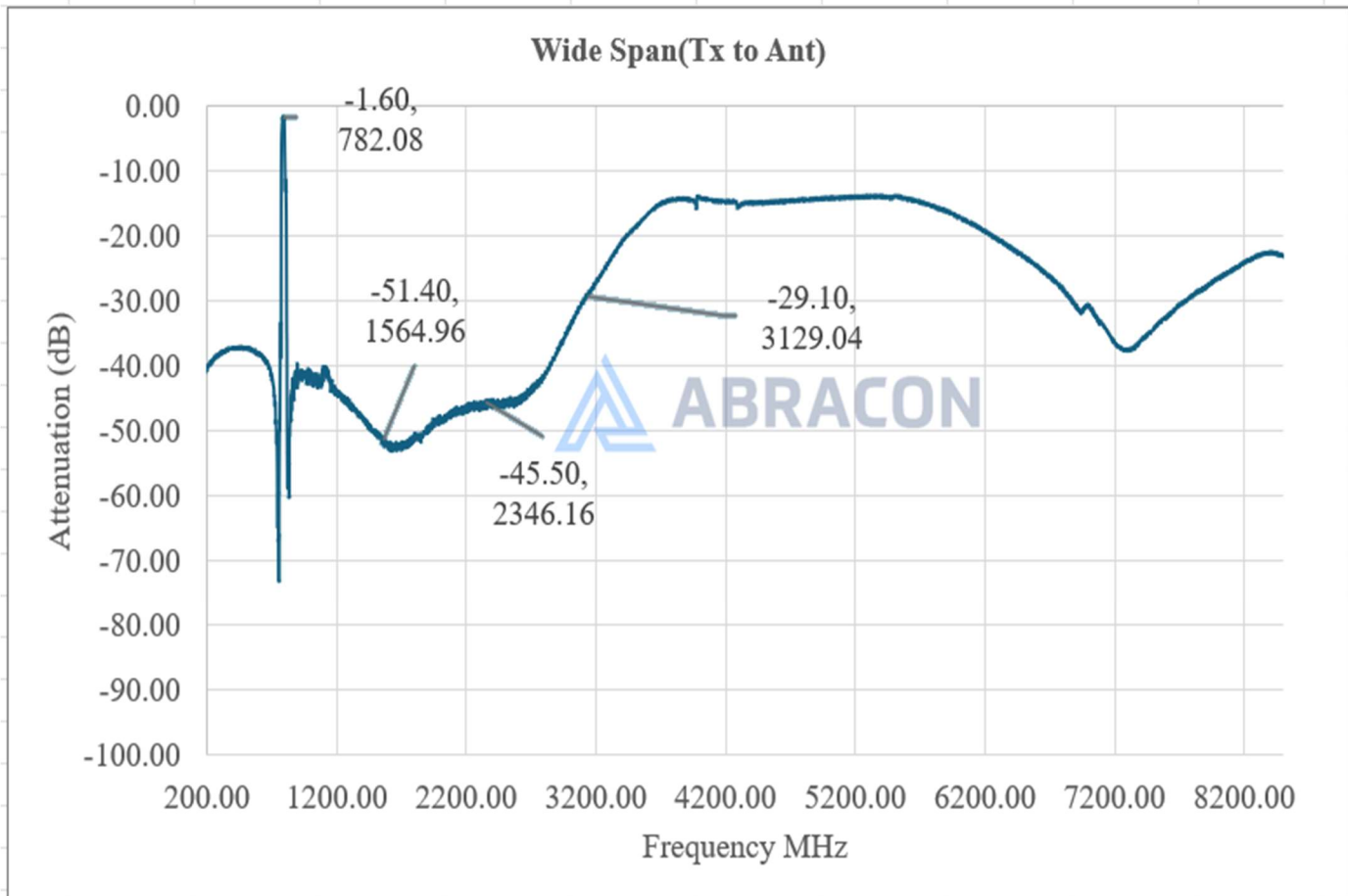


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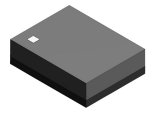


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## Wide Span (Tx to Ant)



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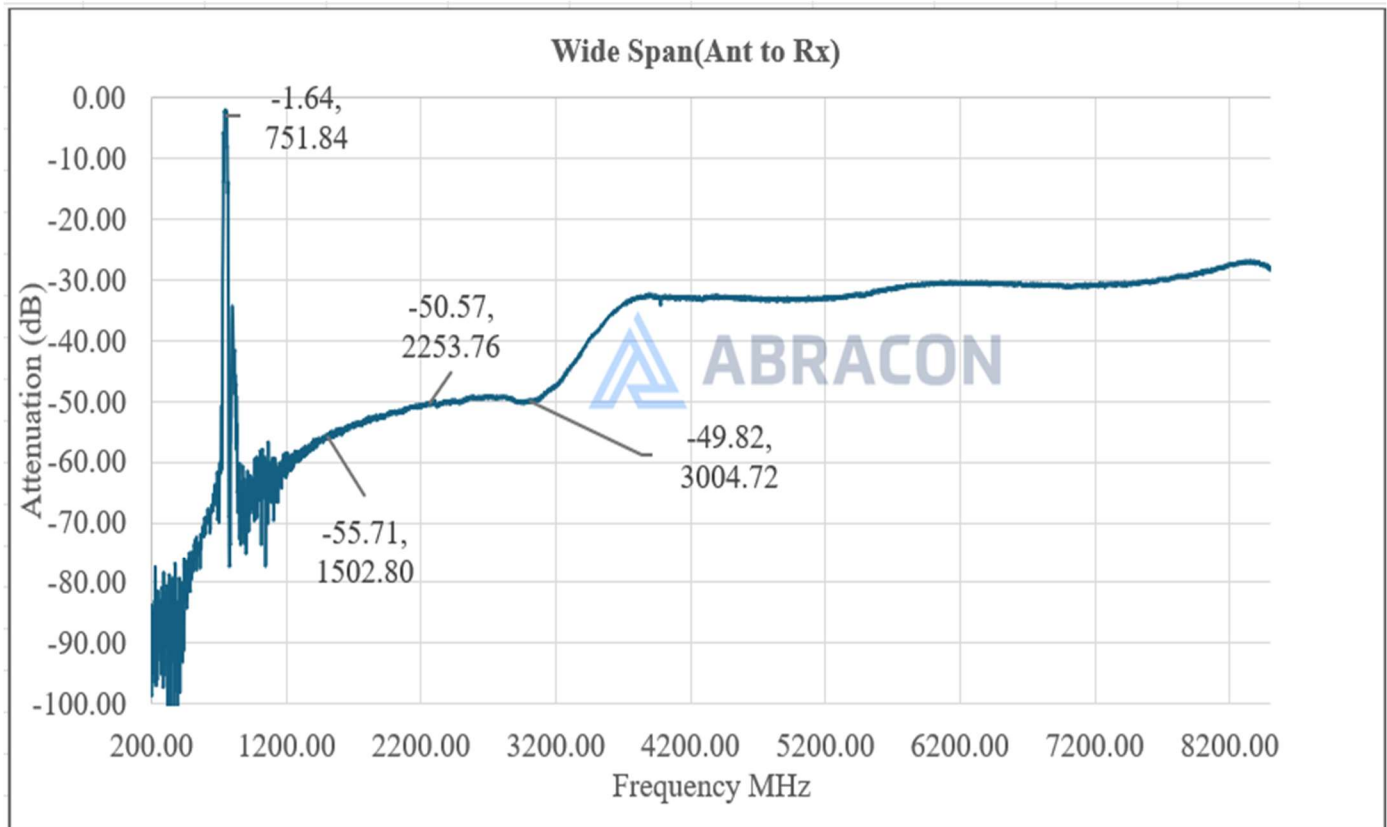


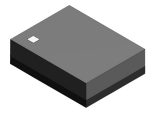
Check Inventory



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## Wide Span (Ant to Rx)





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## Reflow Profile

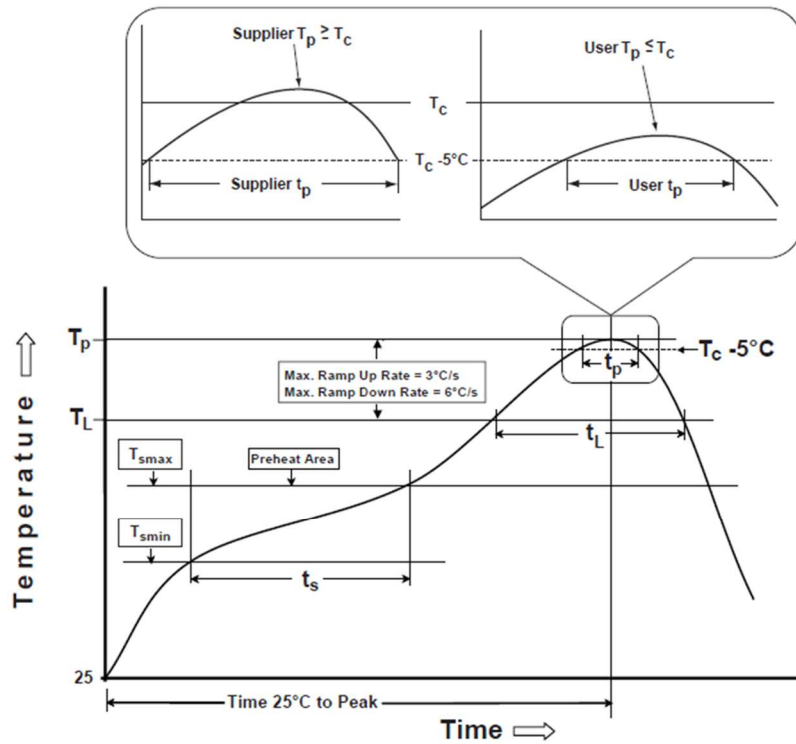


Table 1

SnPb Eutectic Process  
Classification Temperatures ( $T_c$ )

Package Thickness	Volume mm <sup>3</sup> <350	Volume mm <sup>3</sup> ≥350
<2.5 mm	235 °C	220 °C
≥2.5 mm	220 °C	220 °C

Table 2

Pb-Free Process  
Classification Temperatures ( $T_c$ )

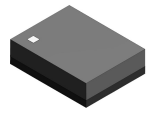
Package Thickness	Volume mm <sup>3</sup> <350	Volume mm <sup>3</sup> 350-2000	Volume mm <sup>3</sup> >2000
<1.6 mm	260 °C	260 °C	260 °C
1.6 mm - 2.5 mm	260 °C	250 °C	245 °C
>2.5 mm	250 °C	245 °C	245 °C

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Preheat / soak		
Temperature minimum ( $T_{smin}$ )	100°C	150°C
Temperature maximum ( $T_{smax}$ )	150°C	200°C
Time ( $T_{smin}$ to $T_{smax}$ ) ( $t_s$ )	60 - 120 sec.	60 - 120 sec.
Average ramp-up rate ( $T_{smax}$ to $T_p$ )	3°C/sec. max	3°C/sec. max
Liquidous temperature ( $T_L$ )	183°C	217°C
Time at liquidous ( $t_L$ )	60 - 150 sec.	60 - 150 sec.
Peak package body temperature ( $T_p$ )*	<b>see Table 1</b>	<b>see Table 2</b>
Time ( $t_p$ )** within 5°C of the specified classification temperature ( $T_c$ )	20 sec.	30 sec.
Ramp-down rate ( $T_p$ to $T_{smax}$ )	6°C/sec. max	6°C/sec. max
Time 25°C to peak temperature	6 min. max	8 min. max
Reflow cycles	2 max	2 max

\*Tolerance for peak profile temperature ( $T_p$ ) is defined as a supplier minimum and a user maximum.

\*\*Tolerance for time at peak profile temperature ( $t_p$ ) is defined as supplier minimum and a user maximum.

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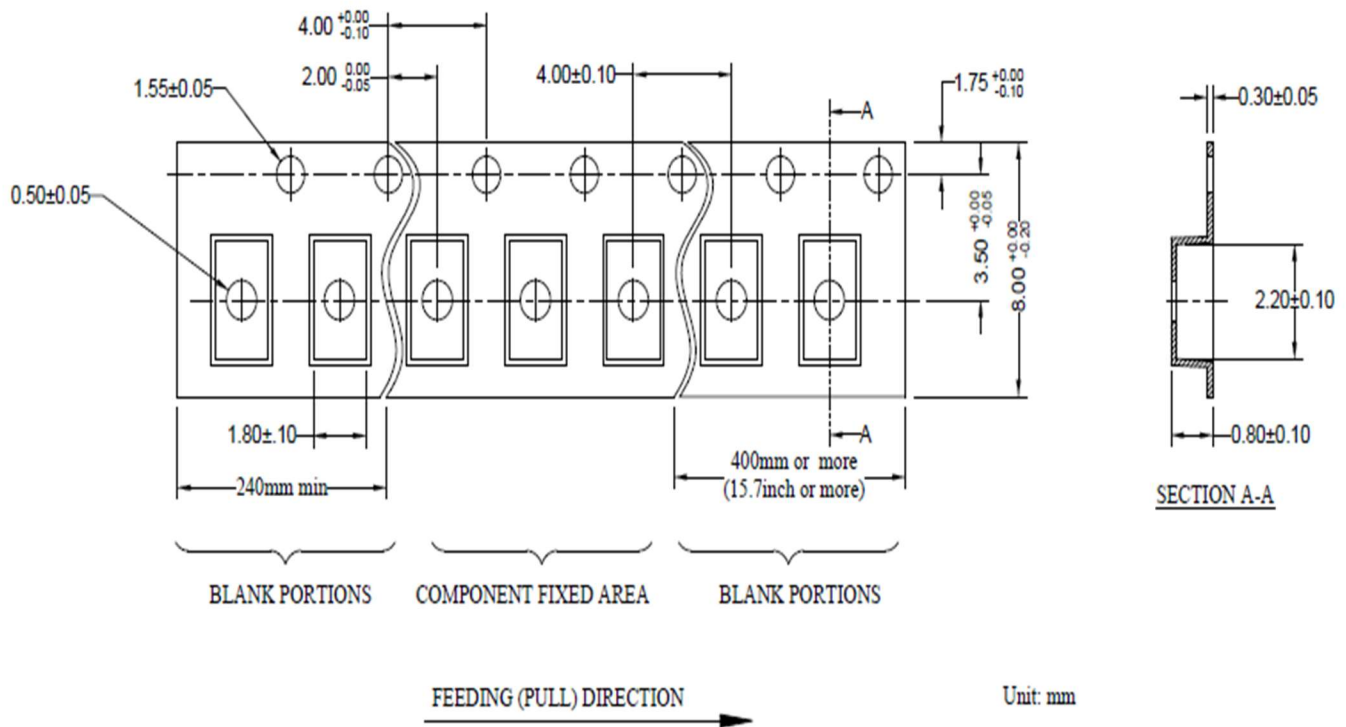


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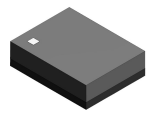
## Packing information

Quantity: 3Kpcs/reel

## Taping Dimensions (Unit: mm)



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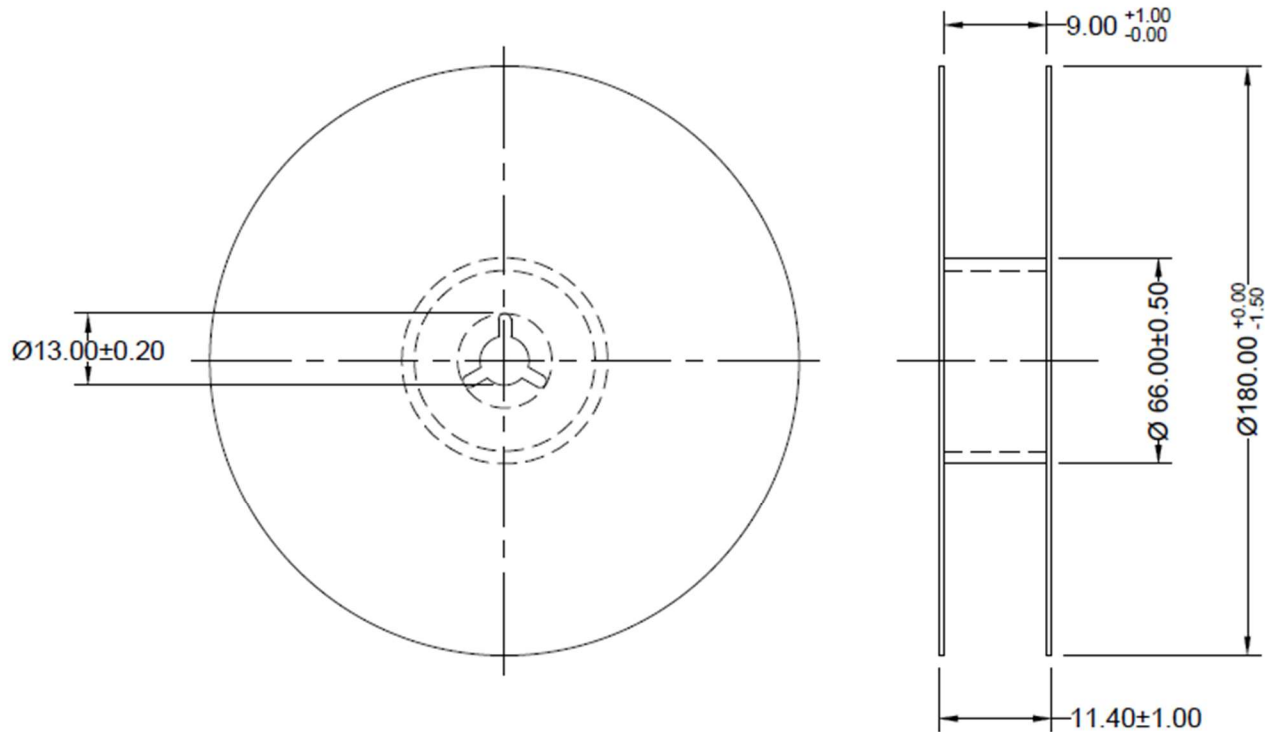


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## Reel Dimensions (Unit: mm)



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