Product Specification

RS7261F Sub 6GHz Directional Coupler

General Description

The RS7261F is a high directivity LGA coupler based on multilayer technology. The technology provides a miniature part with excellent high frequency performance and rugged construction for reliable automatic assembly.
The Coupler is offered in a variety of frequency bands compatible with various types of high frequency wireless systems.

Features

- Operating band: 700~8500MHz
- Excellent solderability
- Low parasitics

Applications

- Wireless Infrastructure
- Small cell BTS
- Pre-5G/5G Massive MIMO systems
- TDD-based architectures

Functional Block Diagram

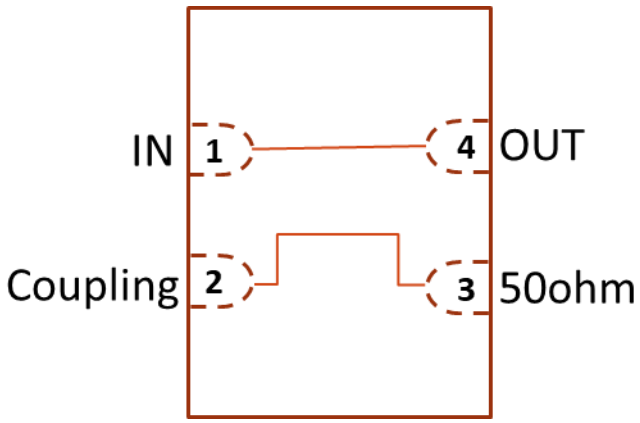


Figure 1

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Absolute Maximum Ratings

Table 1

Parameter	Min	Max	Units
Input Power		4	W
Operating Temperature Range	-40	85	°C
Storage Temperature Range	-65	150	°C
Lead Temperature (soldering, 10s)		260	°C

Stresses above those listed above may cause permanent damage to the device. Functional operation of the device at these or any other conditions above those indicated in the operational section of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

Recommended Operating Conditions

Table 2

Parameter	Min	Max	Units	Parameter
Input Power		3	W	Input Power
Operating Temperature Range	-40	85	°C	Operating Temperature Range

Operation should be restricted to the limits in the Recommended Operating Conditions table. Operation between operating range maximum and absolute maximum for extended periods may reduce reliability.

Specification

Typical Application Circuit, TC = +25°C, PCB board trace and connector losses are de-embedded unless otherwise noted.

Table 3

Parameters	Conditions	Min	Typ	Max	Units
Operational Frequency		700		8500	MHz
Insertion Loss	700MHz		0.05		dB
	1800MHz		0.15		
	2600MHz		0.15		
	3500MHz		0.23		
	4900MHz		0.43		
	8500MHZ		0.51		
Return Loss	700MHz		-35		dB
	1800MHz		-27		
	2600MHz		-29		
	3500MHz		-20		
	4900MHz		-15		
	8500MHZ		-29		
Coupling	700MHz		-32		dB
	1800MHz		-23.5		
	2600MHz		-20		
	3500MHz		-18		
	4900MHz		-15		
	8500MHZ		-11		
Isolation	700MHz		-55		dB
	1800MHz		-47		
	2600MHz		-44		
	3500MHz		-37		
	4900MHz		-30		
	8500MHZ		-29		
Directivity	700MHz		22		dB
	1800MHz		23		
	2600MHz		23		
	3500MHz		18		
	4900MHz		14		
	8500MHZ		18		

Pin Diagram

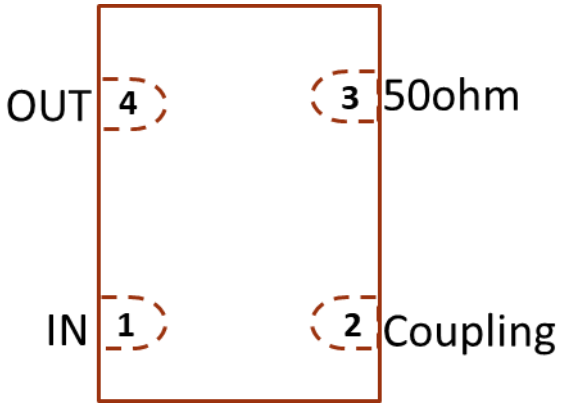


Figure 2

Pin Description

Table 4

Pad No.	Label	Description
1	IN	RF input
2	Coupling	Coupling port from RF input
3	50ohm	Terminated by 50ohm
4	OUT	RF Output

Application Information

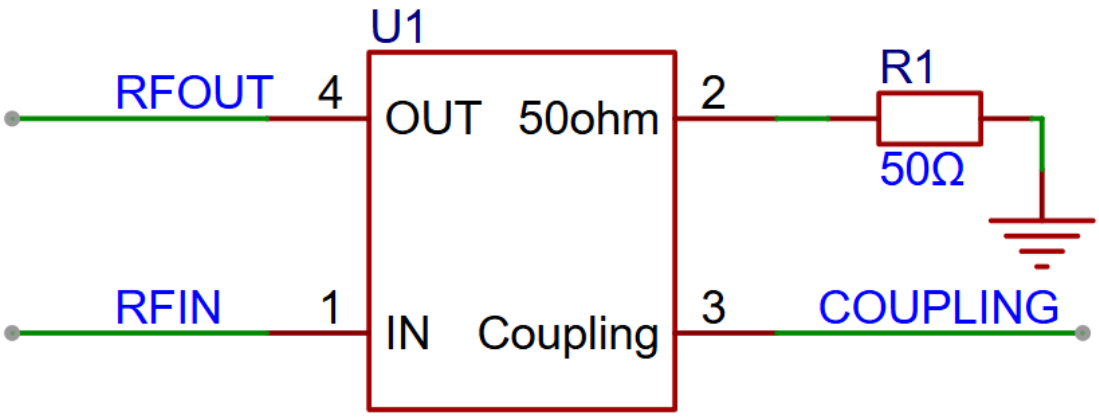


Figure 3

Table 5

Item	Quantity	Reference	Part	Footprint
1	1	50OHM	R1	R0402
2	1	RS7261F	U1	

Typical Performance Characteristics

Figure 4 Insertion Loss

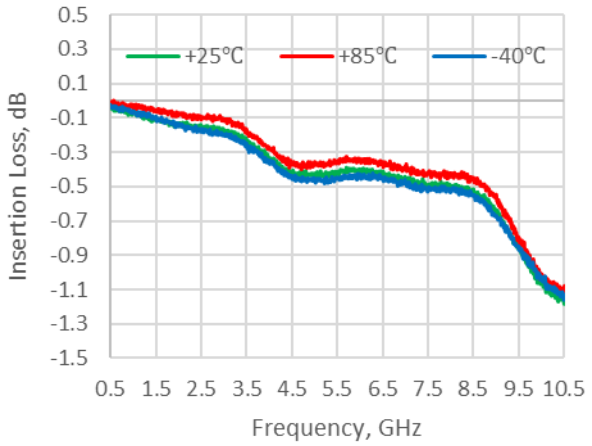


Figure 5 Coupling

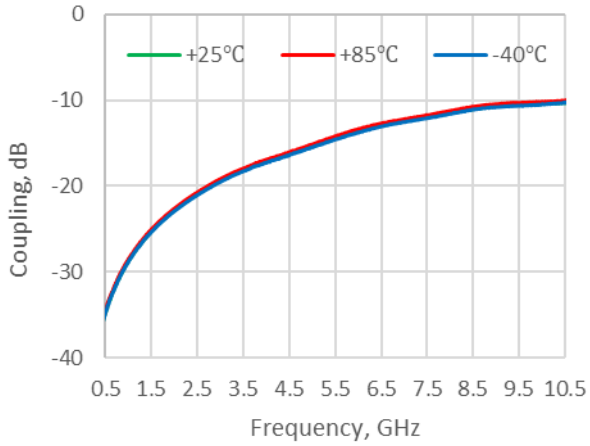


Figure 6 Input Return Loss

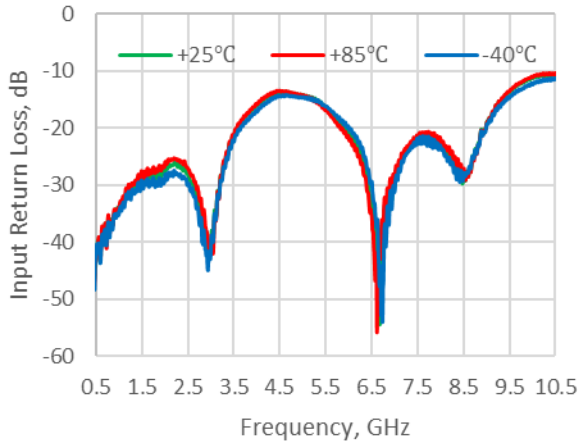


Figure 7 Output Return Loss

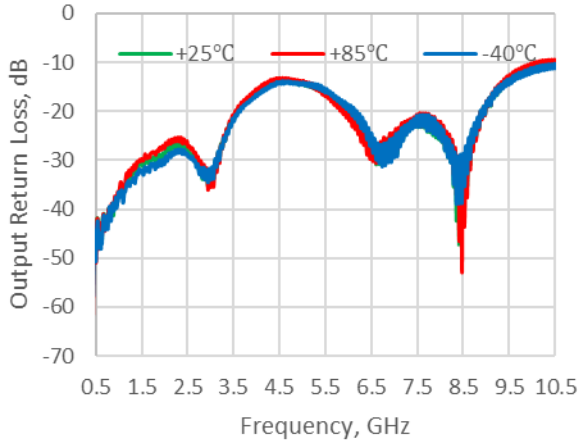


Figure 8 Isolation

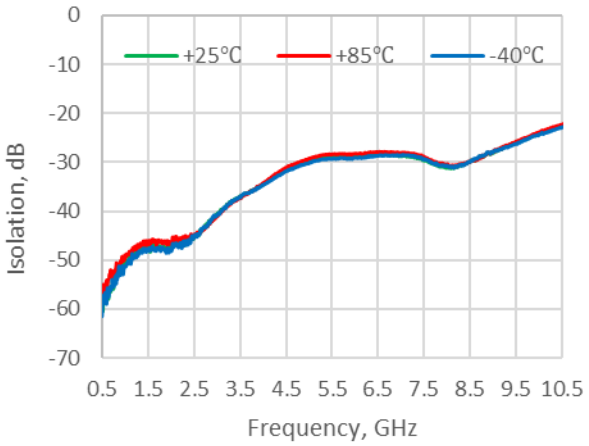
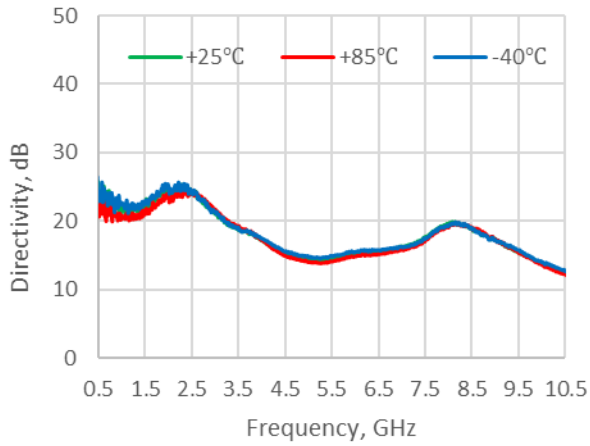


Figure 9 Directivity



Package Drawing

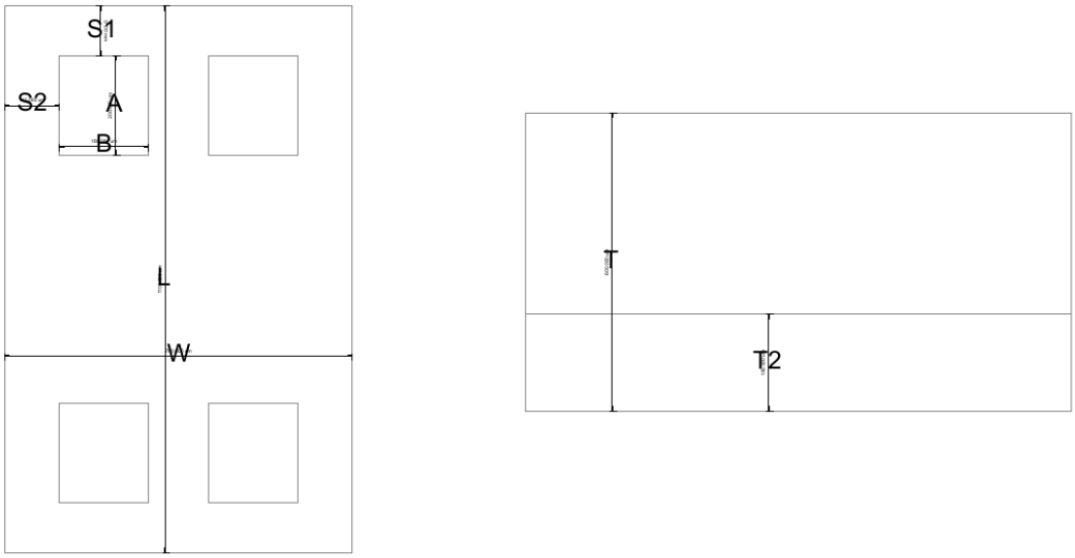


Figure10

Table 6

S1	0.1 mm
S2	0.11 mm
A	0.2 mm
B	0.18 mm
L	1.1 mm
W	0.7 mm
T (Thickness)	0.6 mm
T2	0.195 mm

Package Marking

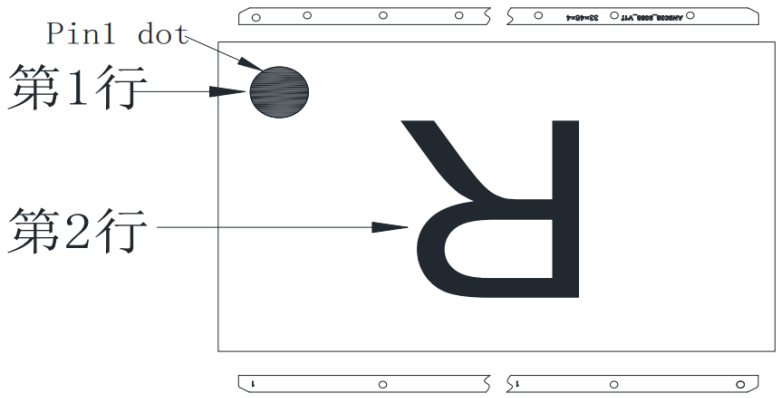
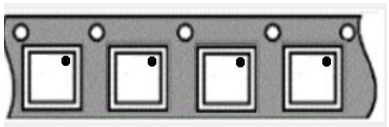


Figure 11

Tape and Reel Specifications

Table 7

Package	Carrier Tape Width(mm)	Pitch (mm)	Component Orientation	Reel Diameter		Quantity/Reel
				Size	Width	
LGA 1.1X0.7	8	4		7	8	5000

Revision History

Table8

Revision Number	Revision Date	Description	Modifications
0.1	2023/3/14	Initial release	—
0.2	2024/1/11		Update Package and Marking, symbol, pin number
0.3	2024/9/25		Update Tape and Reel Spec.
0.4	2025/9/04		Update Spec.

Document Categories

Advance Information

The product is in a formative or design stage. The datasheet contains design target specifications for product development. Specifications and features may change in any manner without notice.

Preliminary Specification

The datasheet contains preliminary data. Additional data may be added at a later date. RFone Technology reserves the right to change specifications at any time without notice in order to supply the best possible product.

Product Specification

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Sales Contact

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