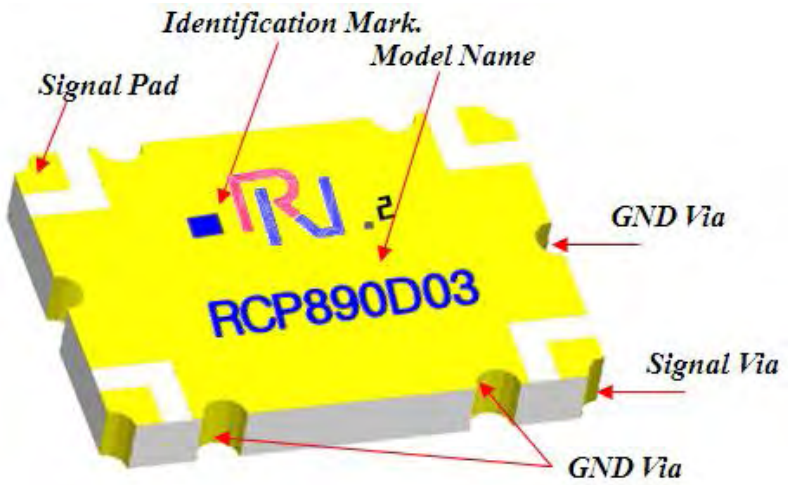
1. Description

1-1. Part number: RCP890D03



1-2. Features

- Hybrid Coupler 3dB, 90°
- Surface mount type
- Suitable for operation frequency 815~960MHz
- **RoHS** compliance
- High stability in temperature and humidity for LTCC base
- Low loss for Silver(Ag) conductor
- Miniature size and high power capability
- Lead-free alloy solderable
- Thermal expansion corresponding with common substrate

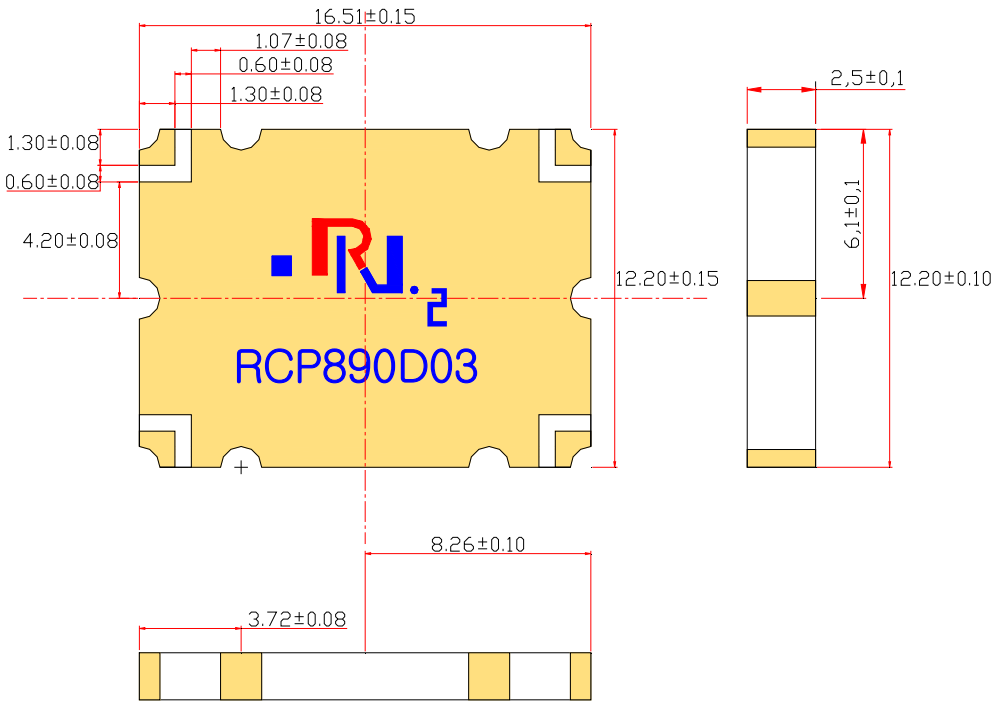
2. Electrical Specification

Freq.	**Amplitude Balance**	**Isolation**	**Insertion Loss**
(MHz)	max (dB)	min (dB)	max (dB)
815-960	± 0.30	-21	-0.12
VSWR	**Phase**	**Power Capacity**	**Operating Temp.**
Max	(degrees)	Avg. (Watt)	(℃)
1.2	90 ± 3.0	200	-55 to +125

3. Mechanical Specification

3-1. Outline Dimension

PROJECTION	NO.	DATE	REVISION & DESCRIPTION	SIGNATURE REVIEWED	SIGNATURE CHECKED
	1	2009.02.23	New-Drawing		
	2				
	3				



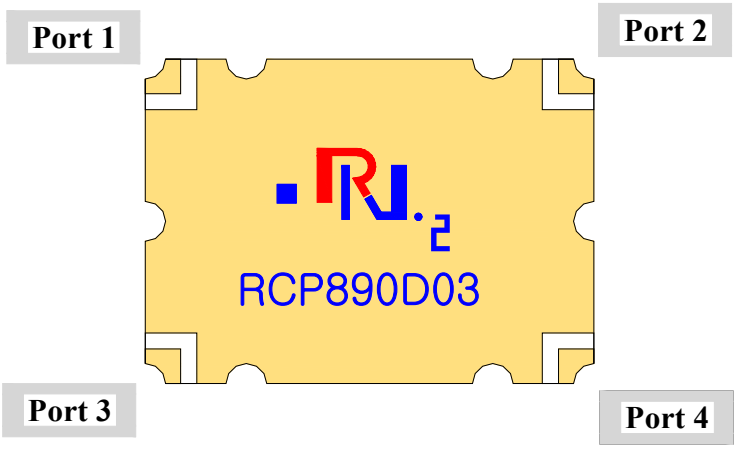
Note.
1. SMD-type, Ceramic Base.
2. Inner signal circuits : Silver(Ag) conductor
3. Surface plating : Gold(Au) finished
4. Tolerance is not cumulative.

NO.	DESCRIPTION		UNIT / TOTAL QUANTITY			
TITLE	RCP890D03-Outline	RN2 DWG NO.	09-0223-01	SCALE	1/1	
				SIZE	A4	DIMENSION mm

3-2. Weight

- 1.39 ± 10% Grams typical

4. Port Configuration



Configuration	Port 1	Port 2	Port 3	Port 4
Case 1.	Input	Isolated	Coupling -3dB, 0˚	Output -3dB, -90˚
Case 2.	Isolated	Input	Output -3dB, -90˚	Coupling -3dB, 0˚
Case 3.	Coupling -3dB, 0˚	Output -3dB, -90˚	Input	Isolated
Case 4.	Output -3dB, -90˚	Coupling -3dB, 0˚	Isolated	Input

* Once Port 1 is determined, the other three ports are defined automatically.

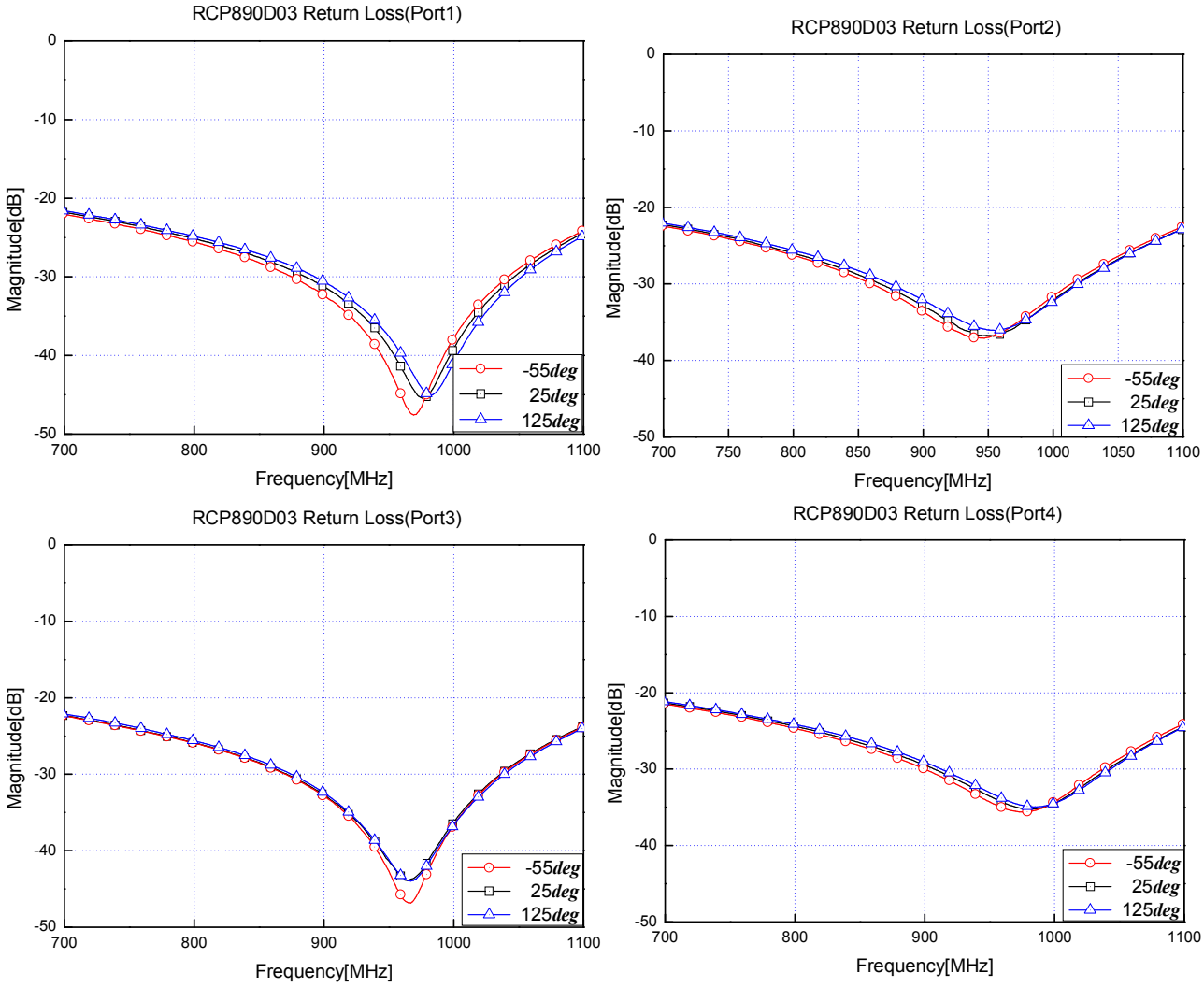
5. Schematic Drawing

6. Typical Performance Data (25℃)

Freq. [MHz]	Coupling [dB]	Out [dB]	IL [dB]	Amp.Bal. [dB]	Isolation [dB]	Phase [degree]	Return Loss [dB]			
							S11	S22	S33	S44
815	-3.05	-3.2	-0.11	±0.15	-24.36	-88.92	-25.79	-26.72	-26.56	-24.97
820	-3.05	-3.2	-0.11	±0.15	-24.54	-88.82	-26.02	-27	-26.8	-25.19
830	-3.04	-3.2	-0.11	±0.16	-24.94	-88.87	-26.49	-27.54	-27.32	-25.61
840	-3.04	-3.21	-0.11	±0.17	-25.33	-88.91	-26.99	-28.16	-27.88	-26.07
850	-3.04	-3.2	-0.11	±0.16	-25.76	-88.93	-27.54	-28.8	-28.47	-26.56
860	-3.04	-3.2	-0.11	±0.16	-26.23	-88.91	-28.15	-29.48	-29.16	-27.06
870	-3.04	-3.2	-0.11	±0.16	-26.7	-89.07	-28.81	-30.23	-29.89	-27.62
880	-3.06	-3.2	-0.12	±0.14	-27.24	-88.93	-29.53	-31.04	-30.72	-28.2
890	-3.05	-3.19	-0.11	±0.14	-27.78	-89.06	-30.35	-31.92	-31.65	-28.8
900	-3.05	-3.18	-0.10	±0.13	-28.35	-89.18	-31.27	-32.9	-32.66	-29.48
910	-3.07	-3.17	-0.11	±0.10	-29.03	-88.99	-32.31	-33.81	-33.89	-30.2
920	-3.08	-3.16	-0.11	±0.08	-29.68	-89.08	-33.54	-34.87	-35.37	-30.98
930	-3.09	-3.14	-0.10	±0.05	-30.39	-89.15	-34.95	-35.9	-36.93	-31.81
940	-3.12	-3.13	-0.11	±0.01	-31.06	-89.02	-36.72	-36.57	-38.93	-32.68
950	-3.14	-3.12	-0.12	±0.02	-31.74	-88.92	-38.93	-36.75	-41.35	-33.55
960	-3.15	-3.1	-0.11	±0.05	-32.32	-89.2	-41.68	-36.54	-43.51	-34.36

* Data with PCB and Connector Loss (0.89 GHz = 0.03dB)

7. Operation Temperature Curve (a)



8. Operation Temperature Curve (b)