

90° Hybrid, 6-12.4GHz, SMA Female

WMQH-6-12.4-S

Key Features

- Octave band.
- High isolation.
- Excellent return loss.
- Low unbalance.

Model WMQH-6-12.4-S is an octave band 90-degree 3dB hybrid that covers 6-12GHz in a connectorized aluminum package measuring 1.00 x 0.50 x 0.38 inches. Two through mounting holes. Stainless steel SMA connectors are rugged. Typical total loss is only 0.6dB above split and typical phase balance is 2.5deg. Designed, assembled, and tested in USA.



Photo is representative.

Specifications	Min.	Typ.	Max.	Units
Frequency	6	--	12.4	GHz
Impedance	--	50	--	Ohm
Phase Difference	--	90	--	Degrees
Total Loss ¹ (J1-J3 and J1-J4)	--	3.6±0.4	±0.9	dB
Isolation	14	17	--	dB
Return Loss (all ports)	13	16	--	dB
Amplitude Balance (±)	--	0.3	0.9	dB
Phase Balance (±)	--	2.5	6.0	Degrees
Input Power (CW) ²	--	--	30	Watts

Mechanical

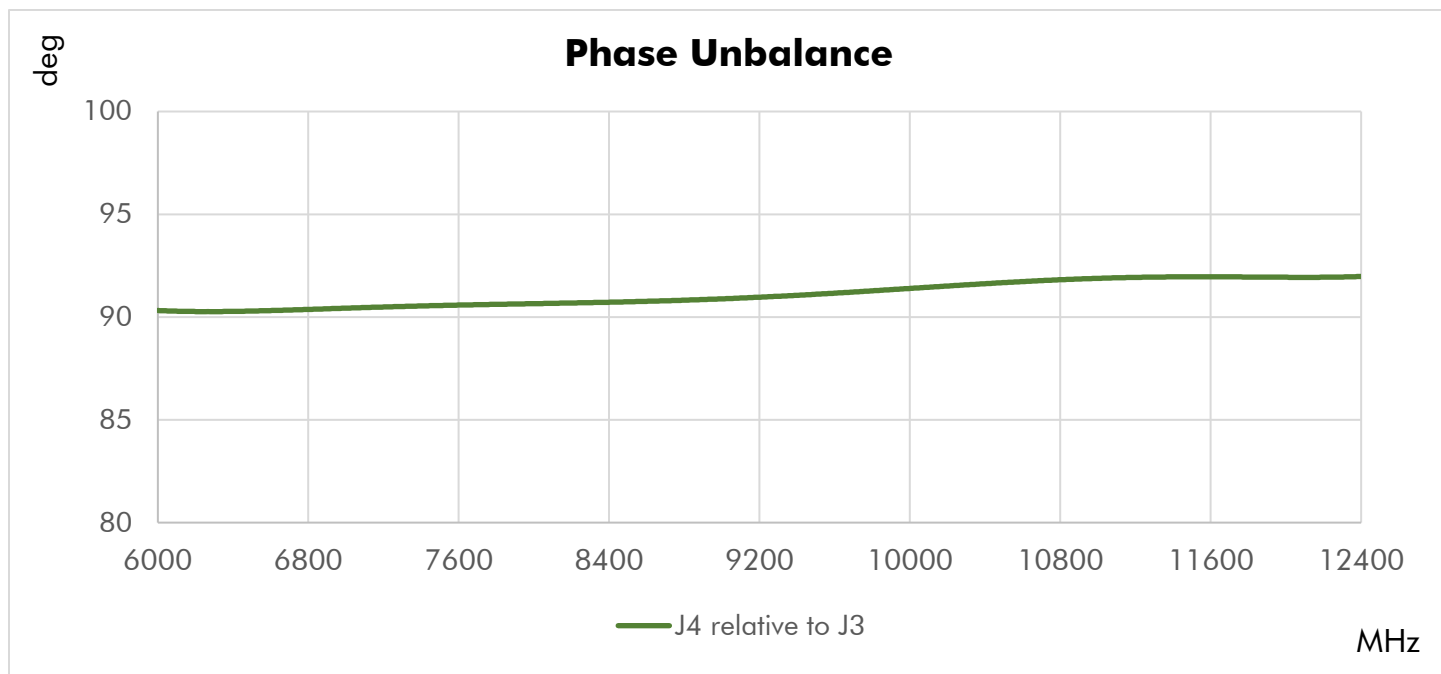
Connector Interface	SMA-Female
Operating Temperature ³	-40 to +85 °C
Storage Temperature	-55 to +100 °C
Weight	0.6 oz (16.7 g)
Humidity	10-90% non-condensing
Environment	Indoor Use Only

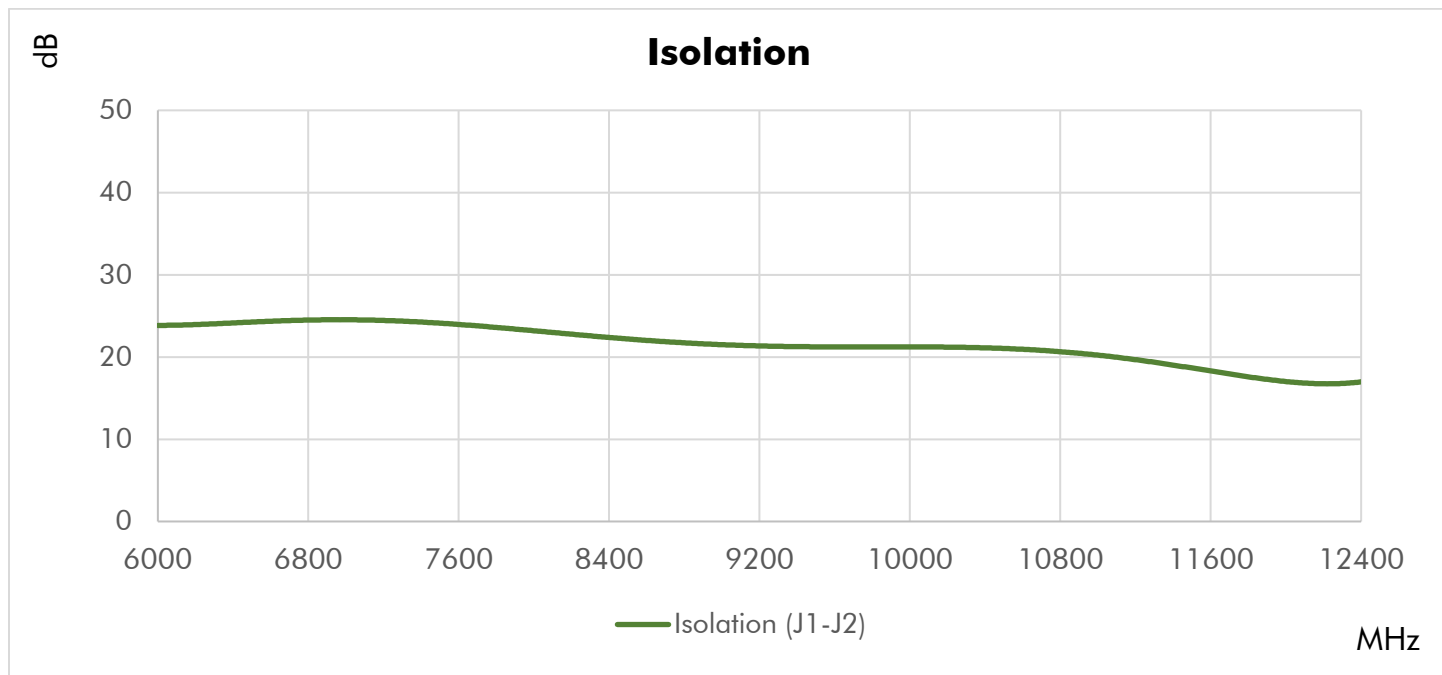
1. Total Loss includes insertion loss and frequency sensitivity.
2. All output ports should be terminated in a 50-ohm load with 1.2:1 max VSWR.
3. Electrical specifications are at +25°C.
4. To the best of our knowledge at the time of publication.

Materials

RoHS and REACH Compliant ⁴	
Enclosure	Aluminum
Connectors	Stainless Steel
Contacts	Be Cu, Gold Plated
Insulators	PTFE
Finish	Green Paint

Typical Performance at +25 °C

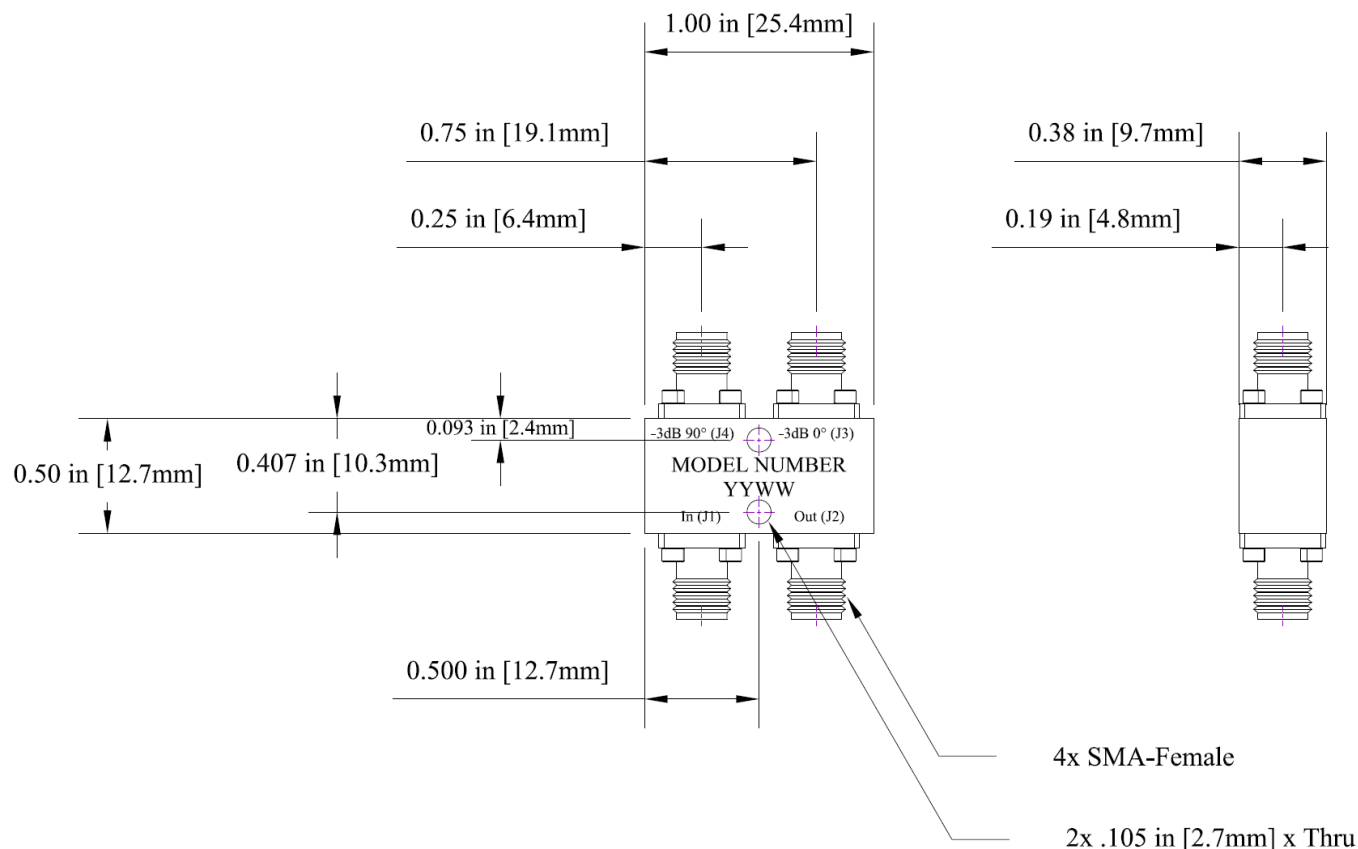




Typical Performance at +25 °C

Frequency (MHz)	Insertion Loss (dB)	Coupling (dB)	Amplitude Unbalance	Phase Unbalance	Isolation (dB)	Return Loss (dB)
	J1-J3	J1-J4	(dB)	(deg)	J1-J2	J1
6000	3.0	3.4	0.4	88.9	33.7	22.6
6500	3.1	3.2	0.1	88.8	38.4	22.8
7000	3.3	3.1	0.2	88.8	43.4	23.1
7500	3.4	3.0	0.4	88.7	35.9	22.9
8000	3.5	3.0	0.5	88.9	31.3	22.7
8500	3.5	2.9	0.6	89.2	28.8	22.9
9000	3.5	2.8	0.7	88.9	26.5	22.6
9500	3.5	2.9	0.6	88.9	24.9	22.4
10000	3.5	3.1	0.4	89.2	23.3	21.4
10500	3.5	3.1	0.4	89.9	23.0	20.7
11000	3.4	3.1	0.2	89.7	21.1	19.1
11500	3.3	3.3	0.0	89.5	19.5	17.7
12000	3.2	3.5	0.3	89.5	18.5	16.8
12400	3.1	3.6	0.5	89.0	18.0	16.4

Outline Dimensions



Outline # OL-Q0408

Dimensions are in inches, [mm] shown for convenience.

Tolerances on 2-pl decimals: $\pm .03$. 3-pl decimals: $\pm .015$.

Port Configuration

		OUTPUT			
		J1	J2	J3	J4
INPUT	J1	--	ISO	0°	+90°
	J2	ISO	--	+90°	0°
	J3	0°	+90°	--	ISO
	J4	+90°	0°	ISO	--

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