

Resistive Divider, DC-7.2GHz, 2-way, SMA-Female

WMRD02-7.2-S

Description

WMRD02-7.2-S is a resistive splitter that covers up to 7.2GHz with ultra-wide bandwidth. This design is useful when there are many low power signals within a wide spectrum. By design, the nominal insertion loss and isolation is 6dB, hence it is often referred to as a "6dB splitter". It has applications in markets such as CATV, test and measurement, and military radio. May be used in single shot pulse power and timer synchronization applications. Its small size makes it easy to integrate into compact systems. Designed, assembled, and tested in the USA.



Photo is representative.

Specifications	Min.	Typ.	Max.	Units
Frequency	DC	-	7.2	GHz
Impedance	-	50	-	Ohm
Return Loss (Port S)	9.5	12	-	dB
Return Loss (Port 1-2)	9.5	14	-	dB
Insertion Loss (Total Measured Loss)	-	6.0	7.0	dB
Isolation	-	6.0	-	dB
Input Power (CW) ¹ up to +30°C; derate linearly to +25dBm at +85°C.	-	-	+30	dBm

Mechanical

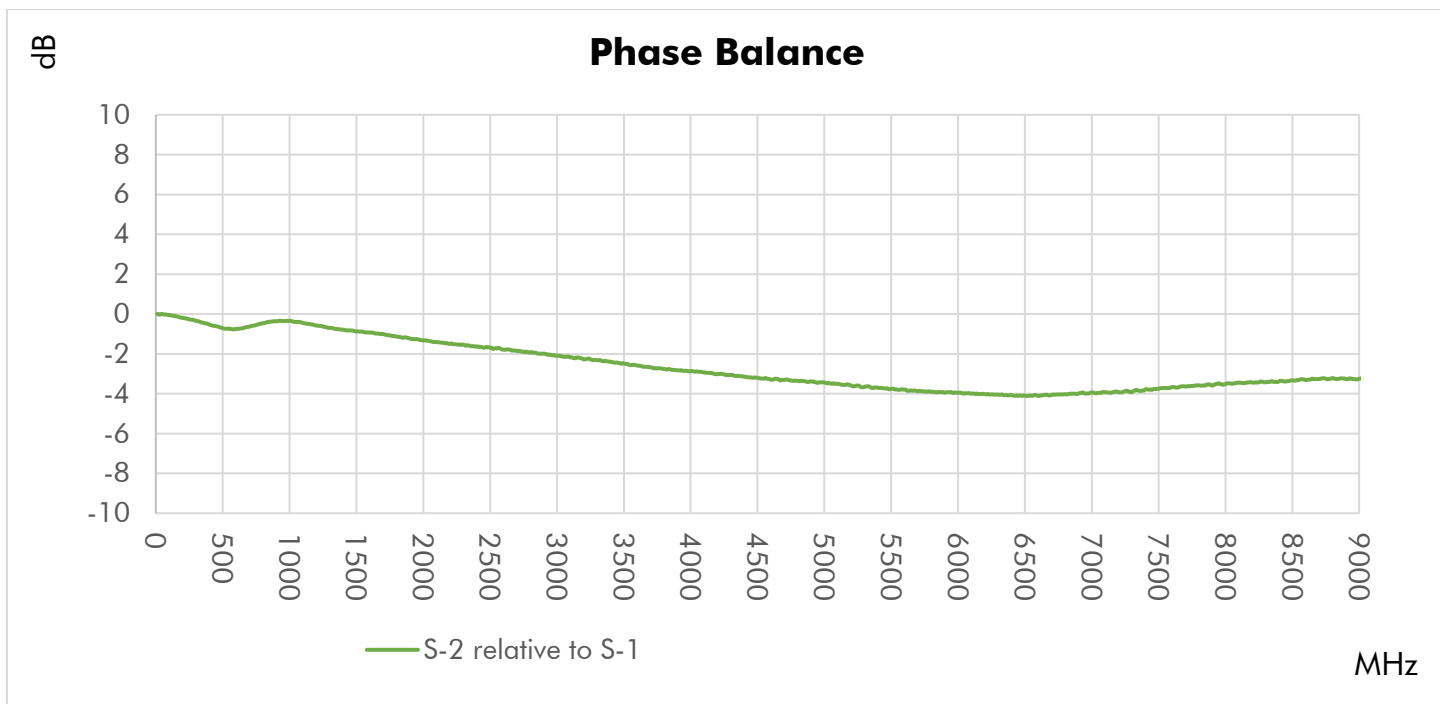
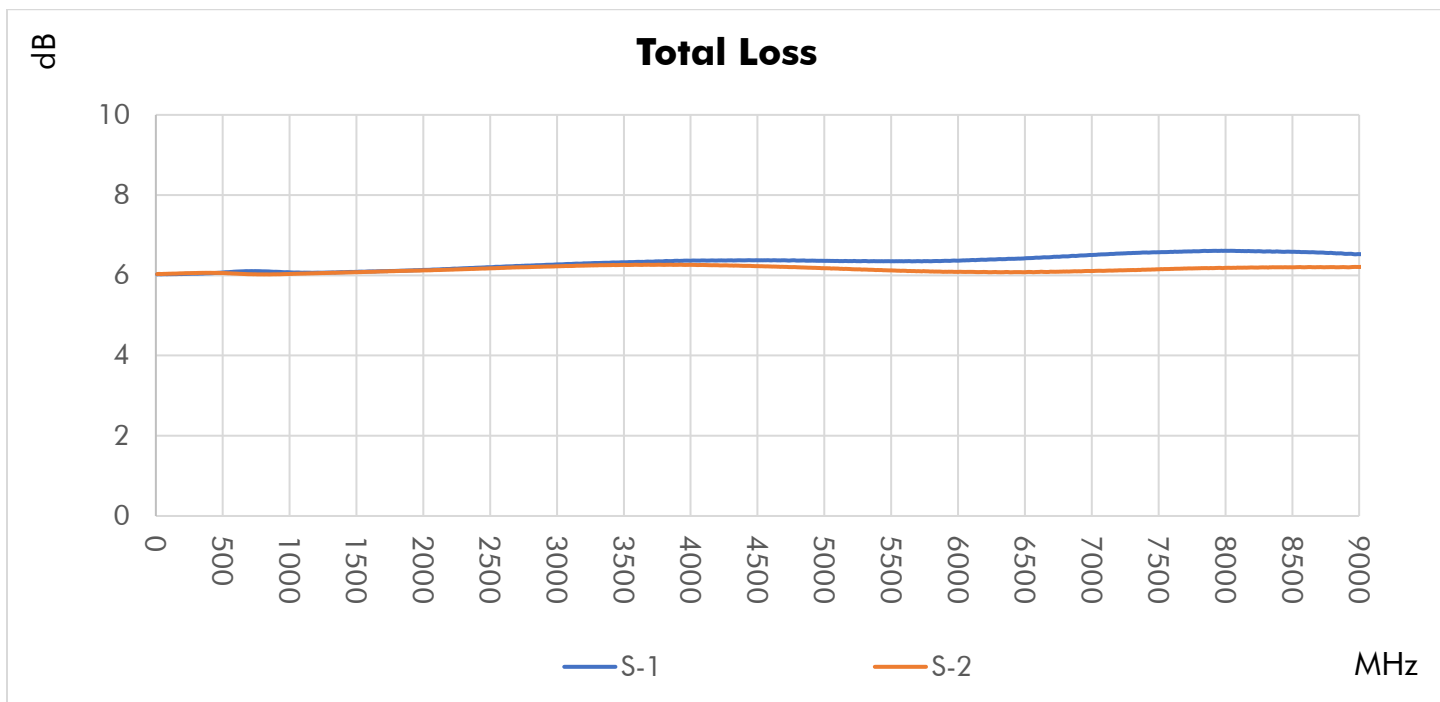
Connector Interface	SMA-Female
Operating Temperature ²	-40 to +85 °C
Storage Temperature	-55 to +100 °C
Weight Estimate	20.6 g (0.73 oz)
Humidity	10-90% non-condensing
Environment	Indoors Use Only
CAGE Code	78YZ0

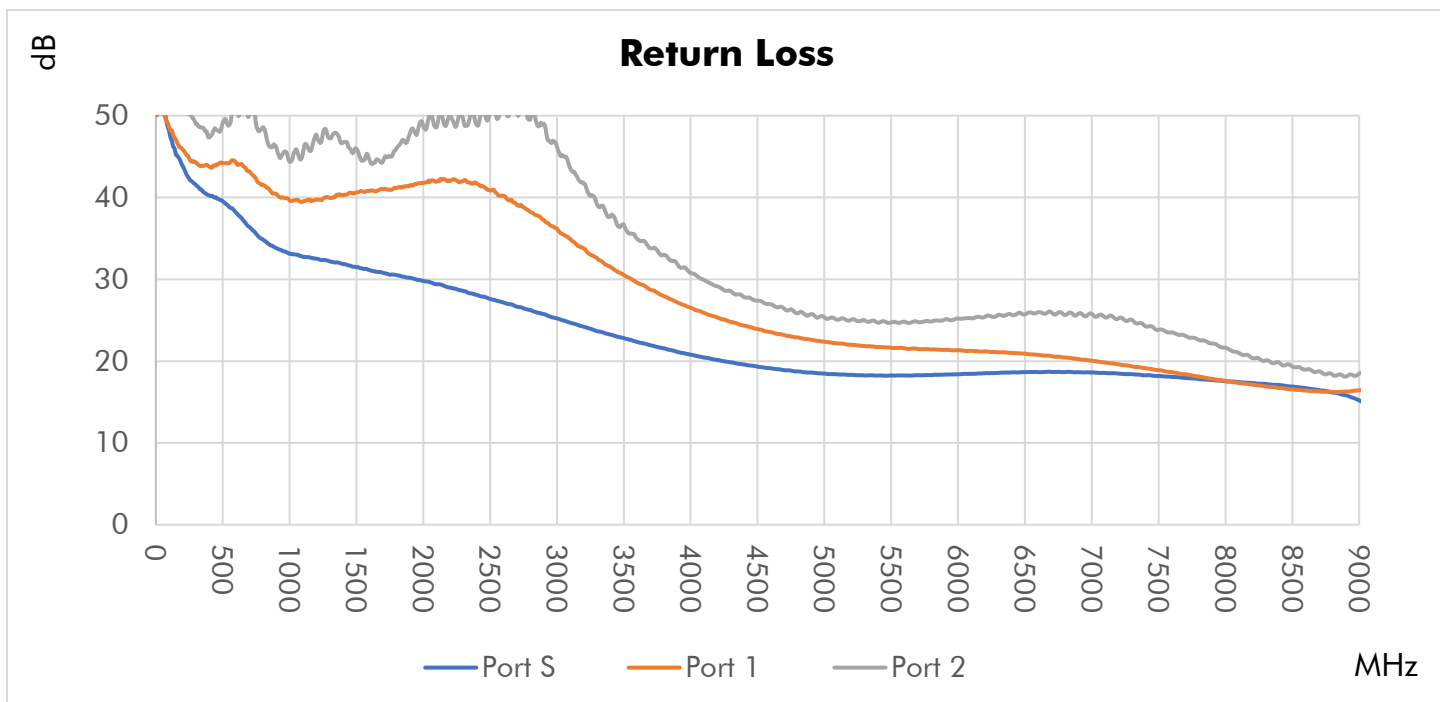
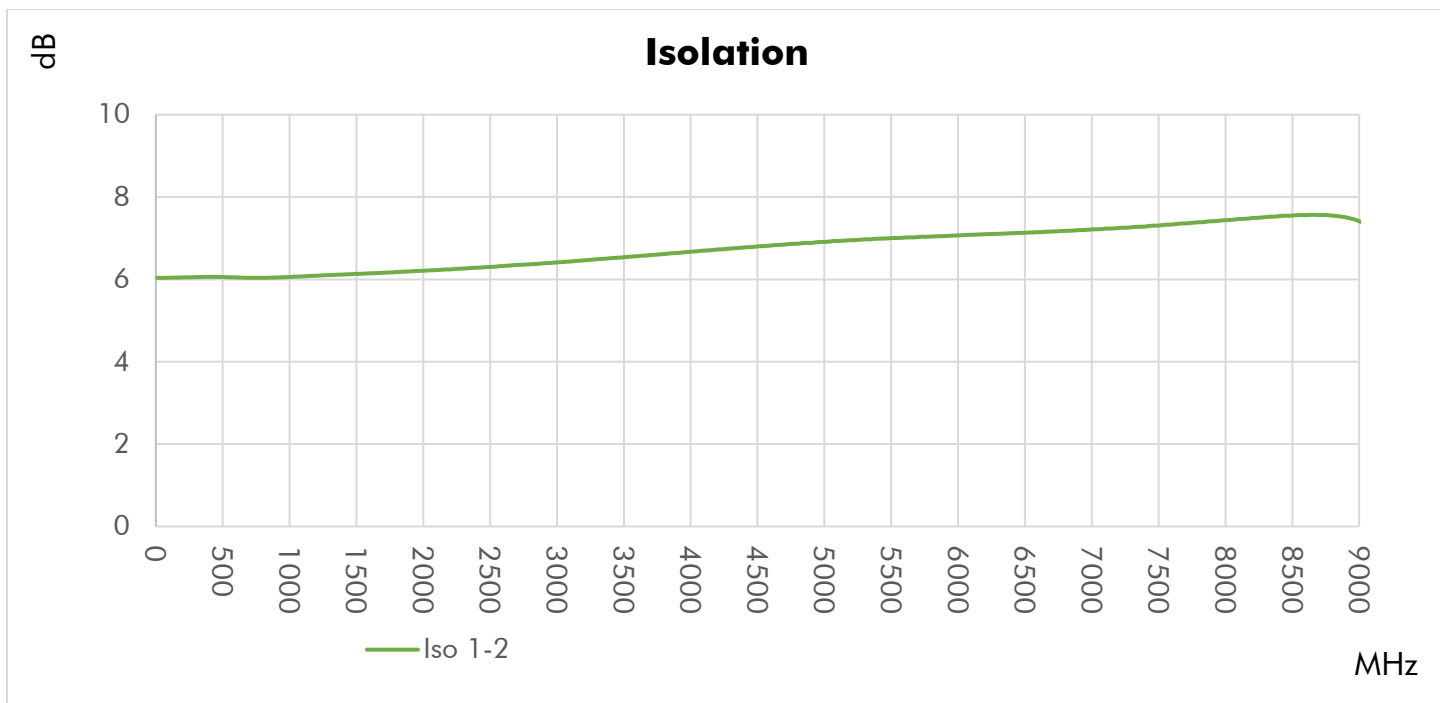
1. All output ports should be terminated in a 50-ohm load with 1.2:1 max VSWR.
2. Electrical specifications at +25 °C.
3. To the best of our knowledge at the time of publication.

Materials

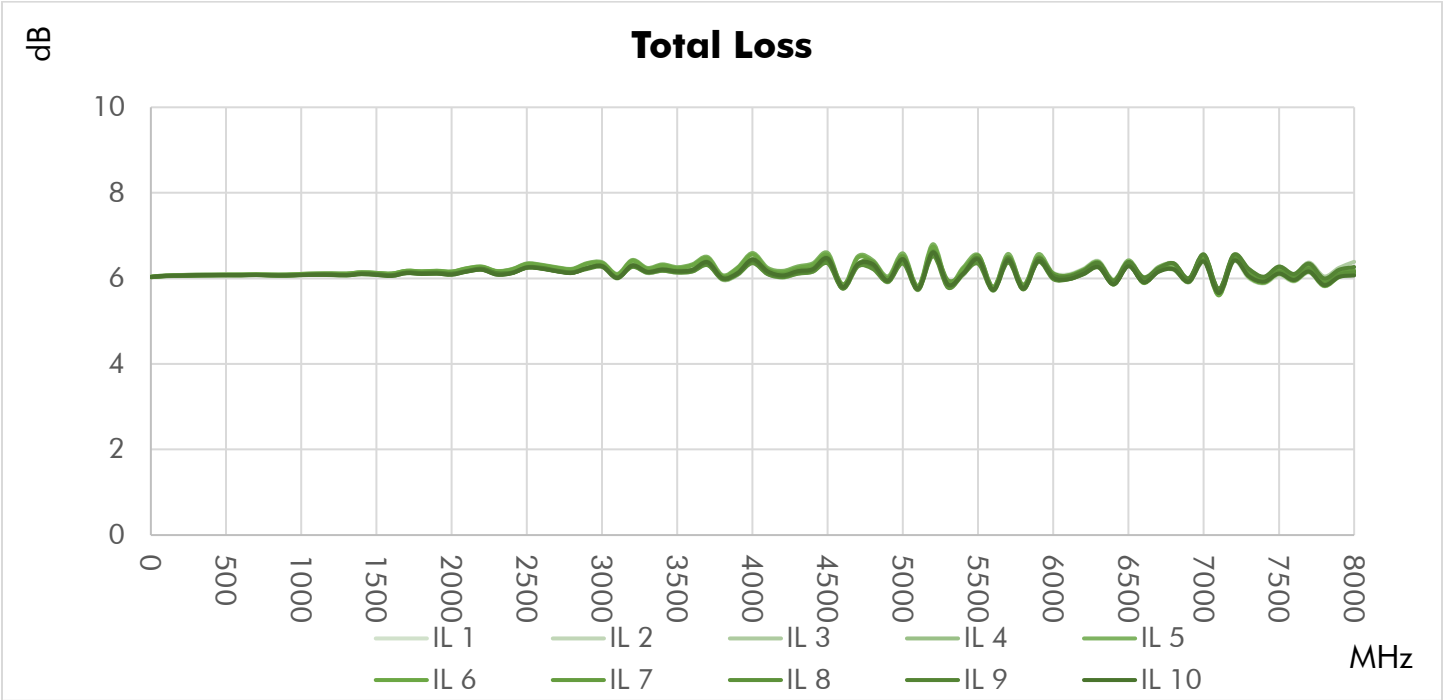
RoHS Compliant ³	Yes
REACH Compliant ³	Yes
Enclosure	Aluminum
Connectors	Brass, Gold Plated
Contacts	Be Cu, Gold Plated
Insulators	PTFE
Finish	Green Paint

Typical Performance at +25 °C

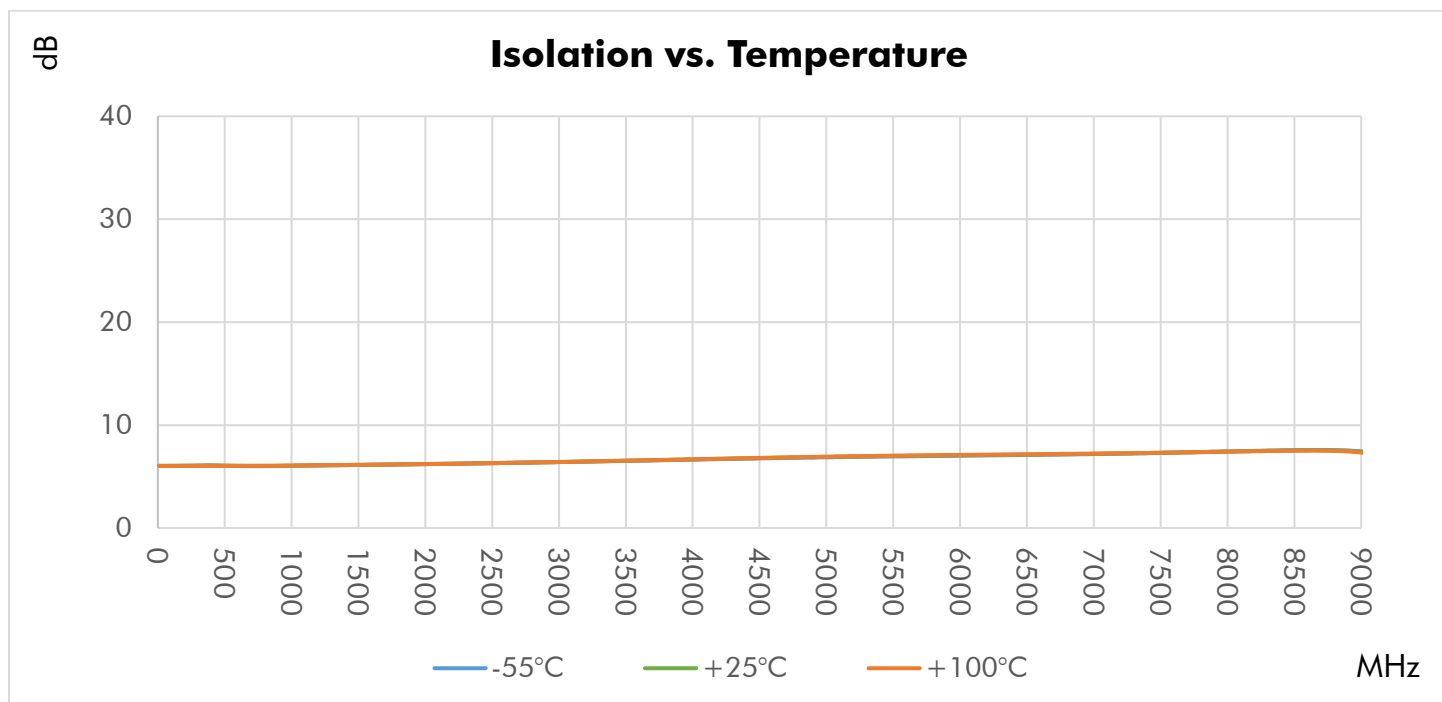
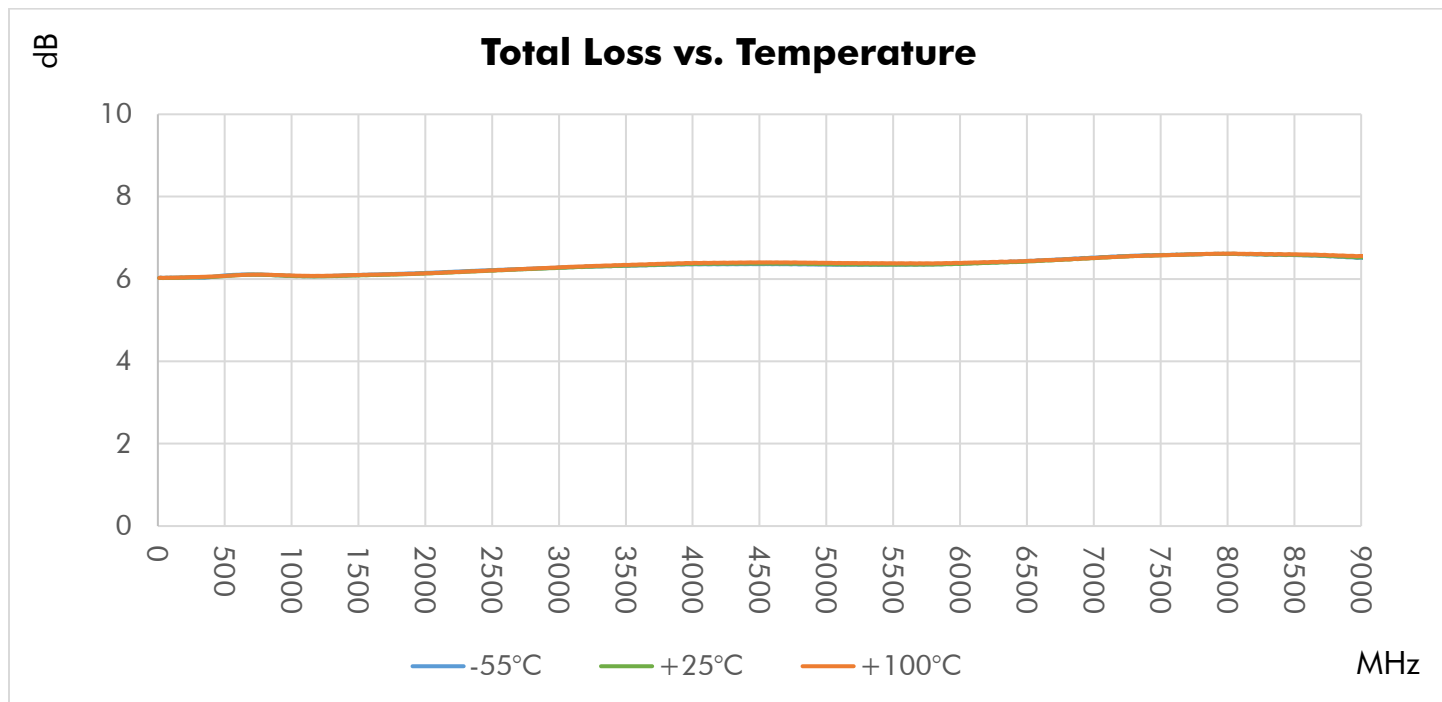


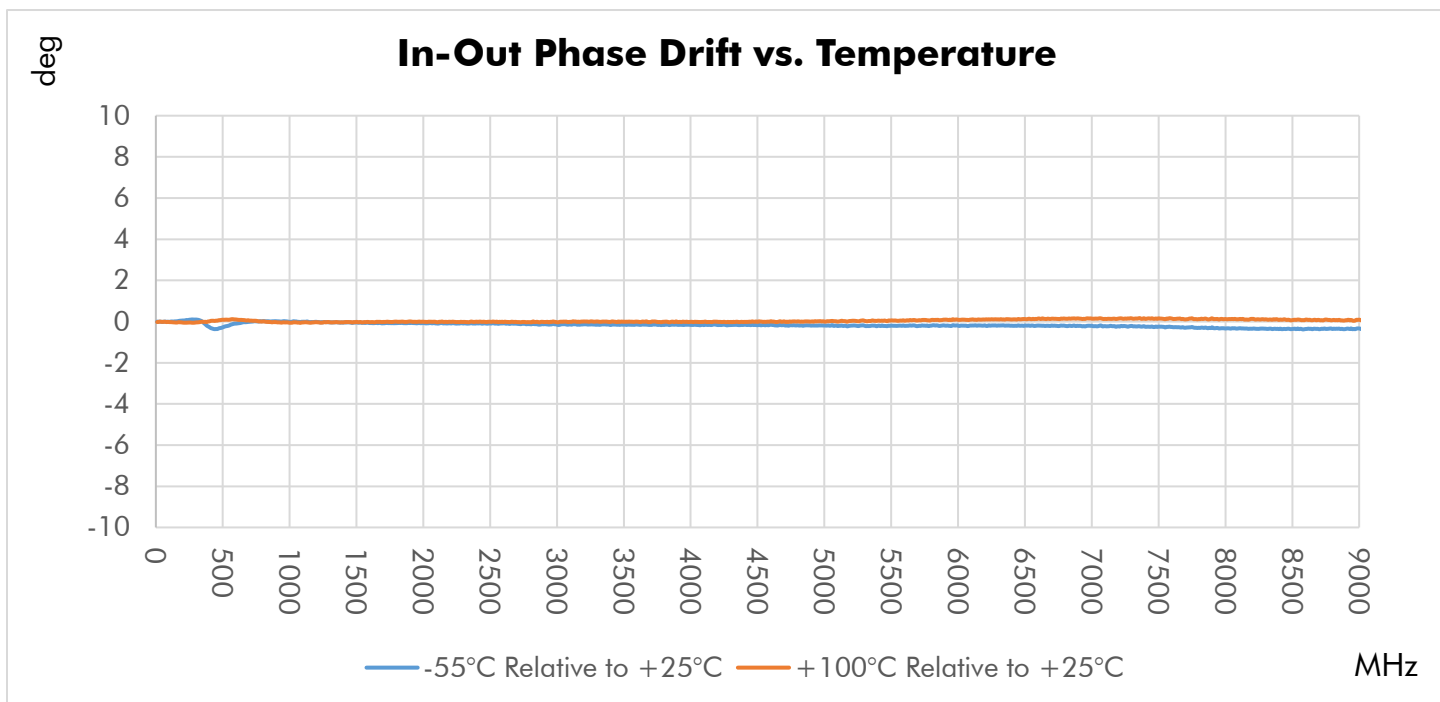
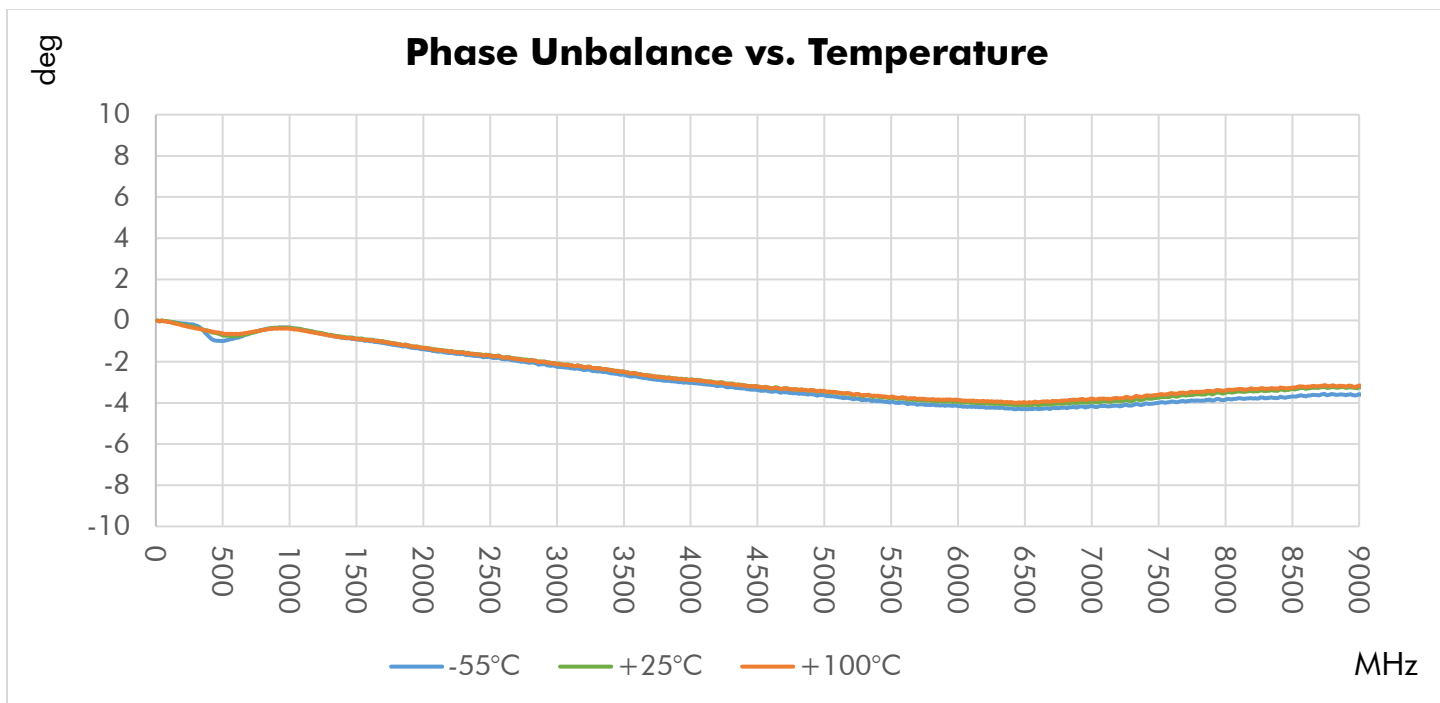


Repeatability in Production



Typical Performance Over Temperature



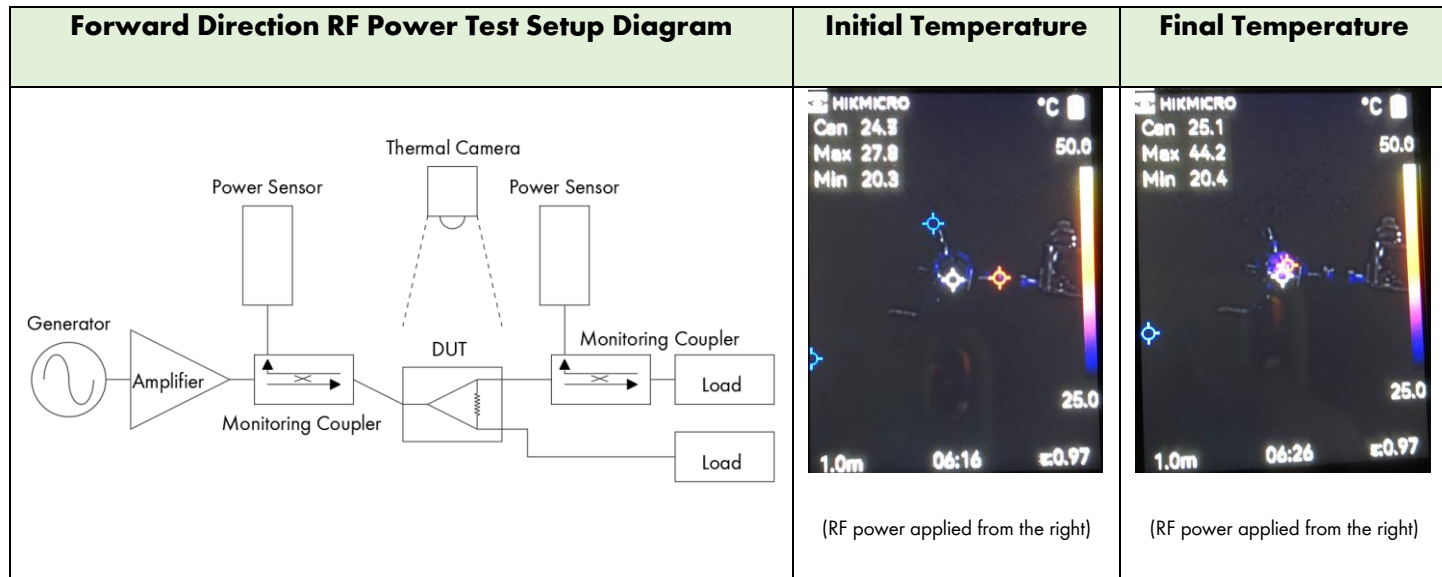


Reliability Testing

RF power test was performed to determine the input power required to produce a nominal temperature rise of 20°C at the hottest point. The test was performed at room temperature without forced air. A heatsink was not used unless it came standard with the product.

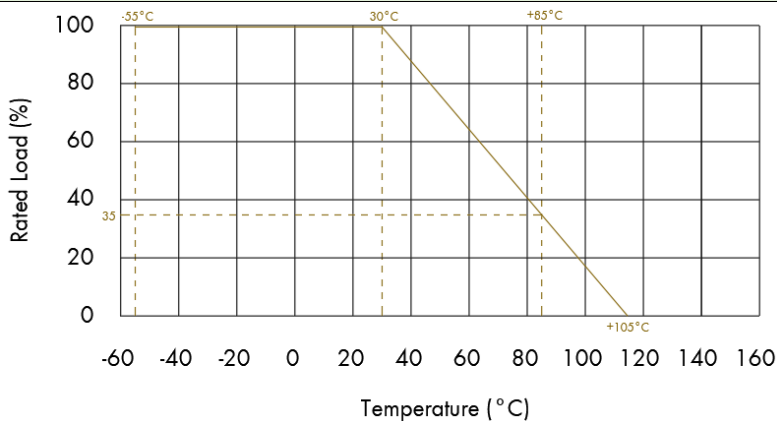
Model WMRD03-7.2-S is shown. Derivative models are arrived at by similarity until they are individually tested.

The test was performed at room temperature without forced air. A heatsink was not used unless it came standard with the product.



- 0.6 watts CW at 500MHz was applied to the DUT input for a duration of 10 minutes.
- The DUT temperature increased from 24.3°C (initial, center marker) to 44.2°C (final, max marker), resulting in a 19.9°C rise.
- 1.0 watt CW at 500MHz produced a rise temperature of 35°C after 10 minutes.

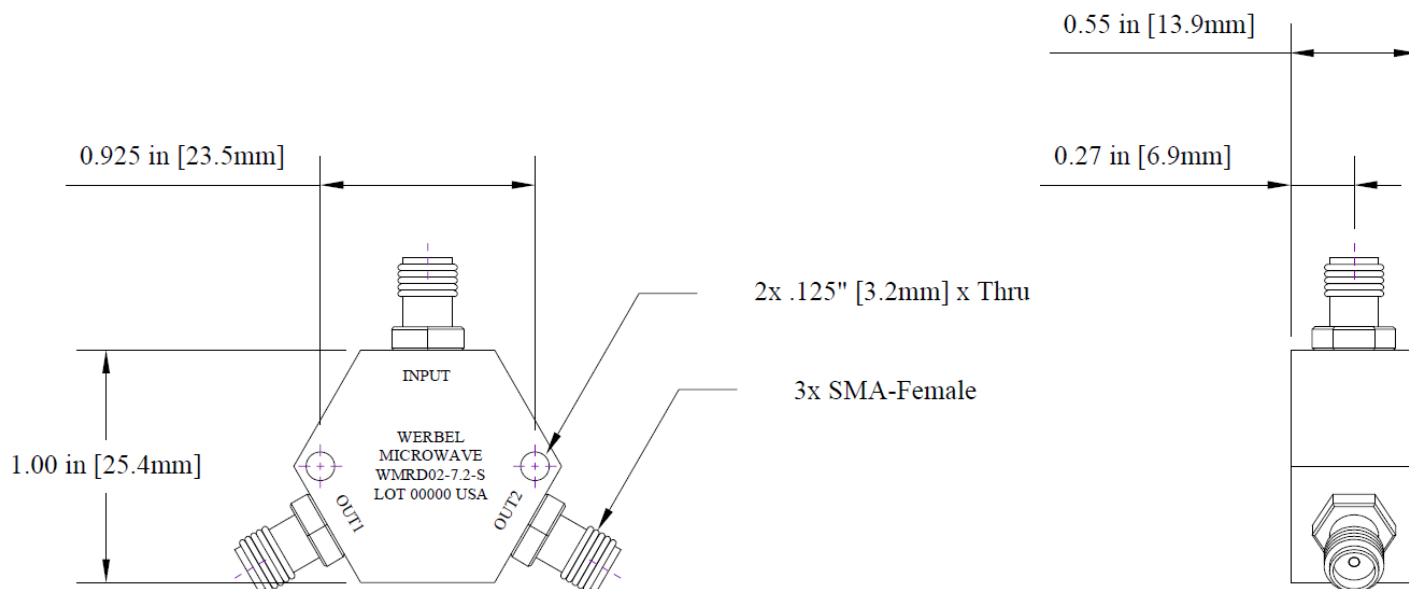
Derating Curve



Typical Performance Data

Frequency (MHz)	Return Loss (dB)			Total Loss (dB)		Isolation (dB)
	Port S	Port 1	Port 2	S-1	S-2	
1	53.20	51.75	52.25	6.04	6.04	6.04
100	41.65	43.31	43.37	6.07	6.07	6.07
200	37.22	39.60	39.51	6.08	6.08	6.08
300	34.48	37.09	36.95	6.08	6.09	6.09
400	32.50	35.43	35.31	6.08	6.09	6.09
500	30.91	33.92	33.79	6.08	6.09	6.10
600	29.51	32.76	32.58	6.08	6.09	6.10
700	28.42	31.89	31.71	6.09	6.09	6.10
800	27.41	30.90	30.70	6.08	6.08	6.09
900	26.55	30.21	29.99	6.07	6.08	6.09
1000	25.74	29.54	29.30	6.08	6.09	6.10
1500	22.63	26.84	26.52	6.10	6.10	6.13
2000	20.21	24.61	24.30	6.12	6.12	6.16
2500	18.15	22.39	22.25	6.31	6.30	6.37
3000	16.50	20.47	20.57	6.35	6.34	6.47
3500	15.10	18.88	19.23	6.19	6.18	6.38
4000	14.08	17.41	17.95	6.46	6.40	6.69
4500	13.36	16.22	16.90	6.47	6.40	6.76
5000	12.82	15.47	16.16	6.48	6.40	6.82
5500	12.42	14.74	15.38	6.53	6.42	6.93
6000	12.14	14.19	14.76	6.13	6.03	6.69
6500	12.07	13.85	14.37	6.42	6.30	7.15
7000	12.10	13.48	14.00	6.55	6.38	7.39
7500	12.49	13.50	14.09	6.23	6.08	7.16
8000	12.59	13.62	14.36	6.23	6.08	7.04

Outline Dimensions



Outline drawing: OL-R06-02

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

Tolerances on 2-pl decimals: ± 0.03 . 3-pl decimals: ± 0.015 .

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Reliability testing was performed as an internal requalification of the product to substantiate the published specifications, which were previously arrived at by calculation and/or similarity to existing products. The results of these tests are provided as a courtesy and shall not form part of a contract or warranty. While reliability tests may depict the product being tested beyond the published specification ratings for the purpose of stress testing the product, this does not imply that the product should be operating above the rated limits for any length of time. Specifications related to reliability (e.g., performance over temperature, power handling, DC current, HI-POT) are "designed to meet" and are not individually tested in production of commercially available products. Please contact a Werbel Microwave LLC Applications Engineer if specific reliability testing is needed on a particular product.