

Resistive Divider, DC-7.2GHz, 12-way, SMA-Female

WMRD12-7.2-S

Description

WMRD12-7.2-S is a resistive splitter that covers up to 7.2GHz with ultra-wide bandwidth. This unique design accomplishes extremely flat frequency response in a small radial package. Our unique design approach provides higher than expected isolation between outputs at far ports than would be achieved in a typical star topology. It has applications in markets such as CATV, test and measurement, and military radio. 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 1-12)	9.5	14	–	dB
Insertion Loss (Total Measured Loss)	–	21.6	23.1	dB
Isolation (Within Group)	–	11.9	–	dB
Isolation (Between Groups A-B-C)	–	33.5	–	dB
Input Power (CW) ¹ up to +30°C; derate linearly to +25dBm at +85°C.	–	–	+30	dBm

Mechanical

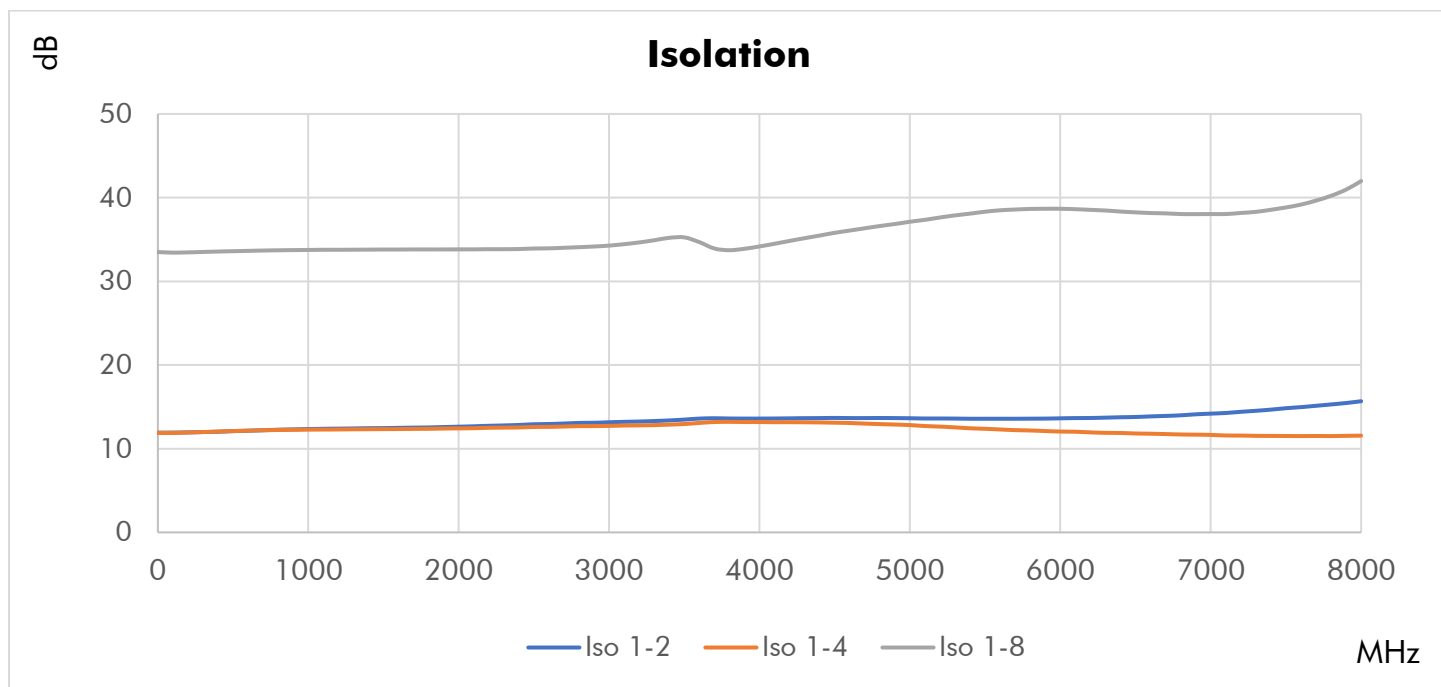
Connector Interface	SMA-Female
Operating Temperature ²	-40 to +85 °C
Storage Temperature	-55 to +100 °C
Weight Estimate	94.6 g (3.34 oz)
Humidity	10-90% non-condensing
Environment	Indoors Use Only
CAGE Code	78YZ0

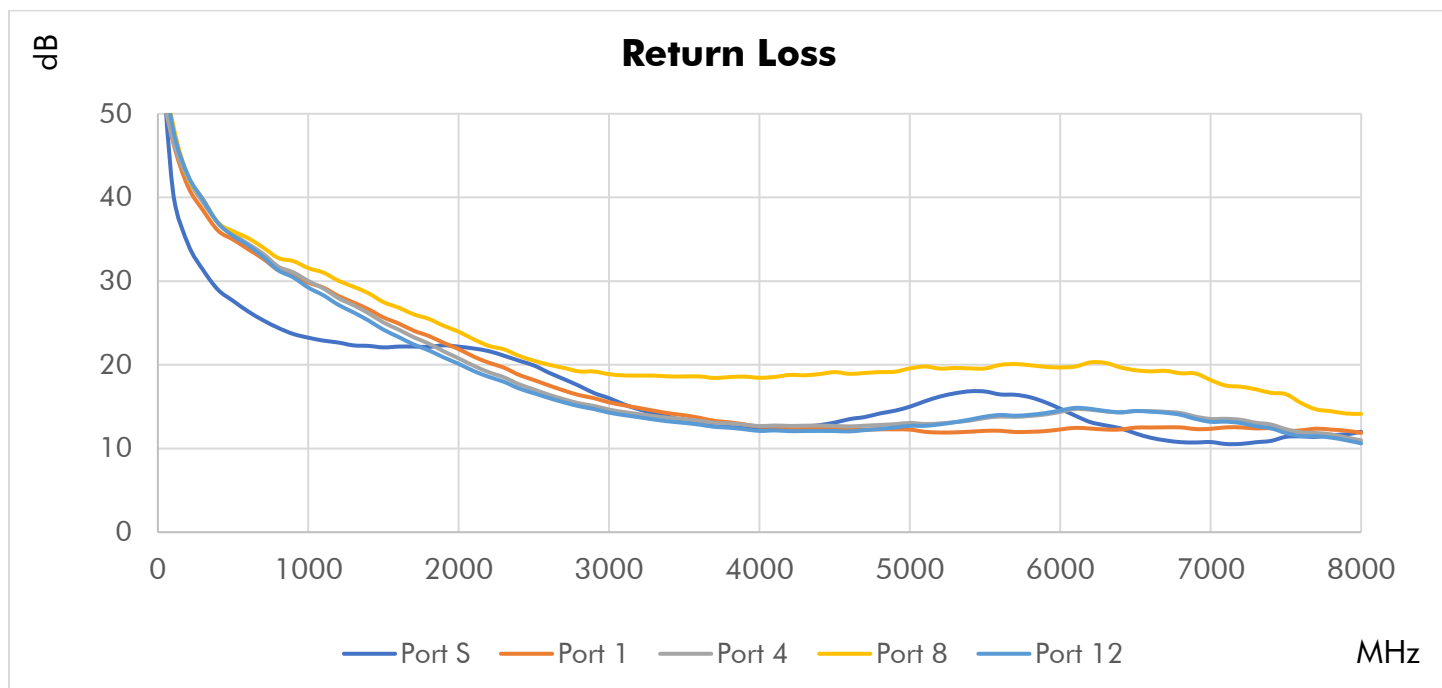
1. All output ports should be terminated in a 50-ohm load with 1.2:1 max VSWR.
2. Electrical specifications at +25 °C only.
3. To the best of our knowledge at the time of publication.

Materials

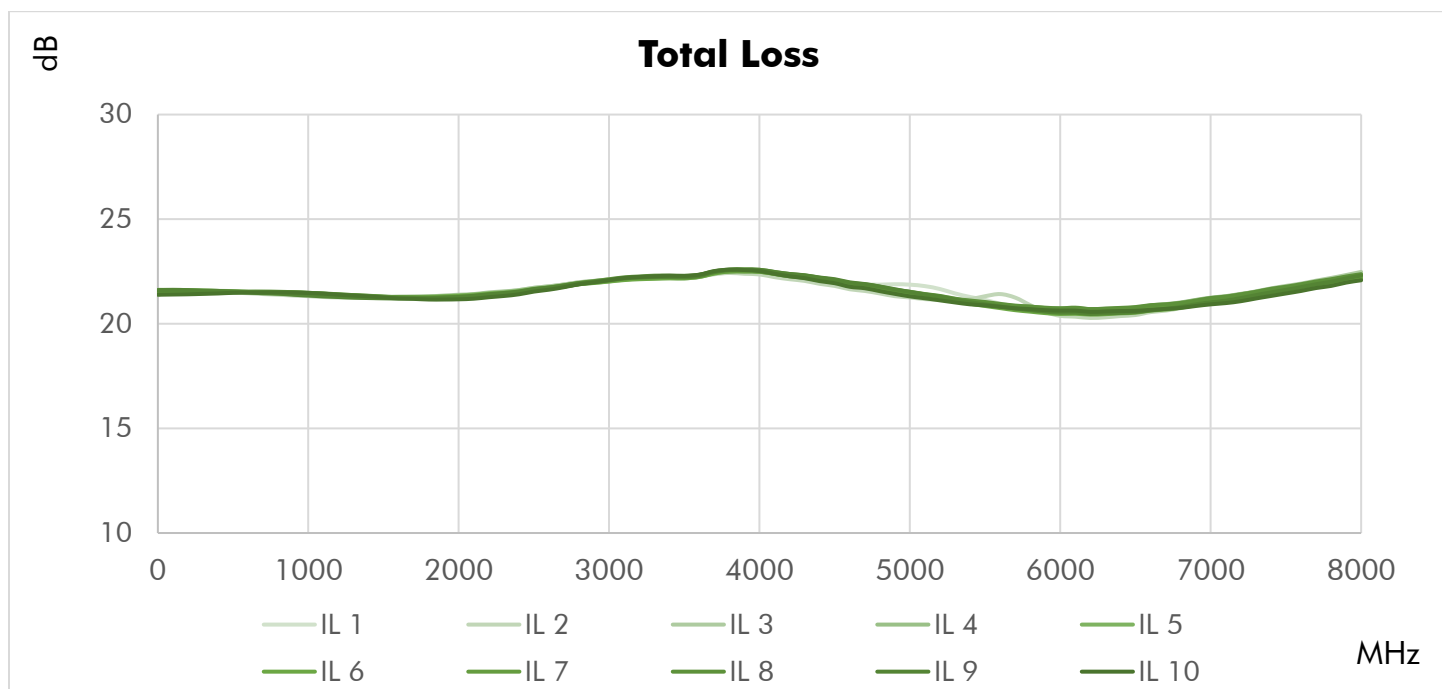
RoHS Compliant ³	Yes
REACH Compliant ³	Yes
Enclosure	Aluminum
Connectors	Brass, Gold Plated
Contacts	Be Cu, Gold Plated
Insulators	PTFE
Finish	Green Paint

Typical Performance at +25 °C





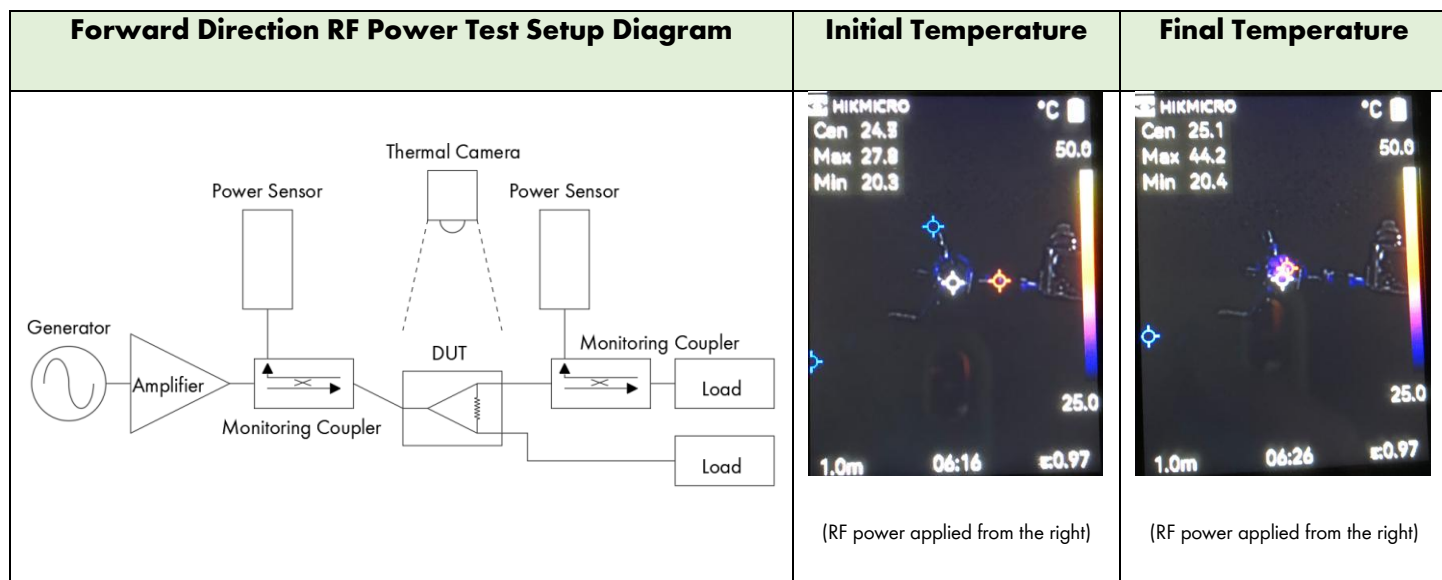
Repeatability in Production



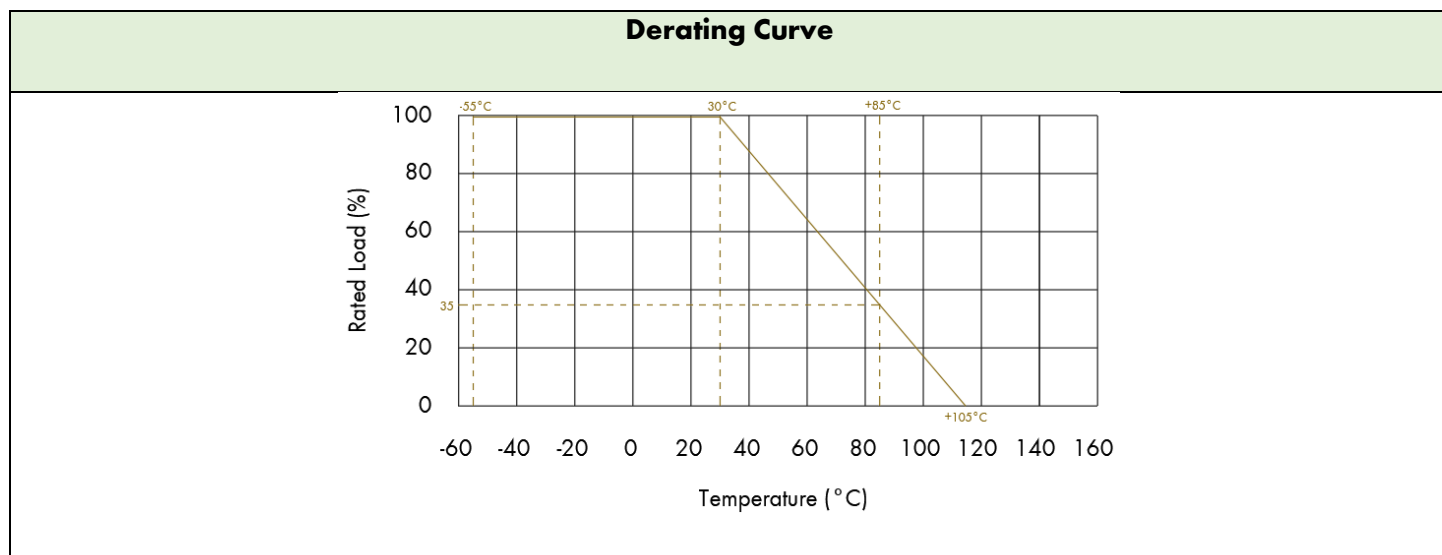
Reliability Testing

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' details arrived at by similarity until they are individually tested and datasheets updated.



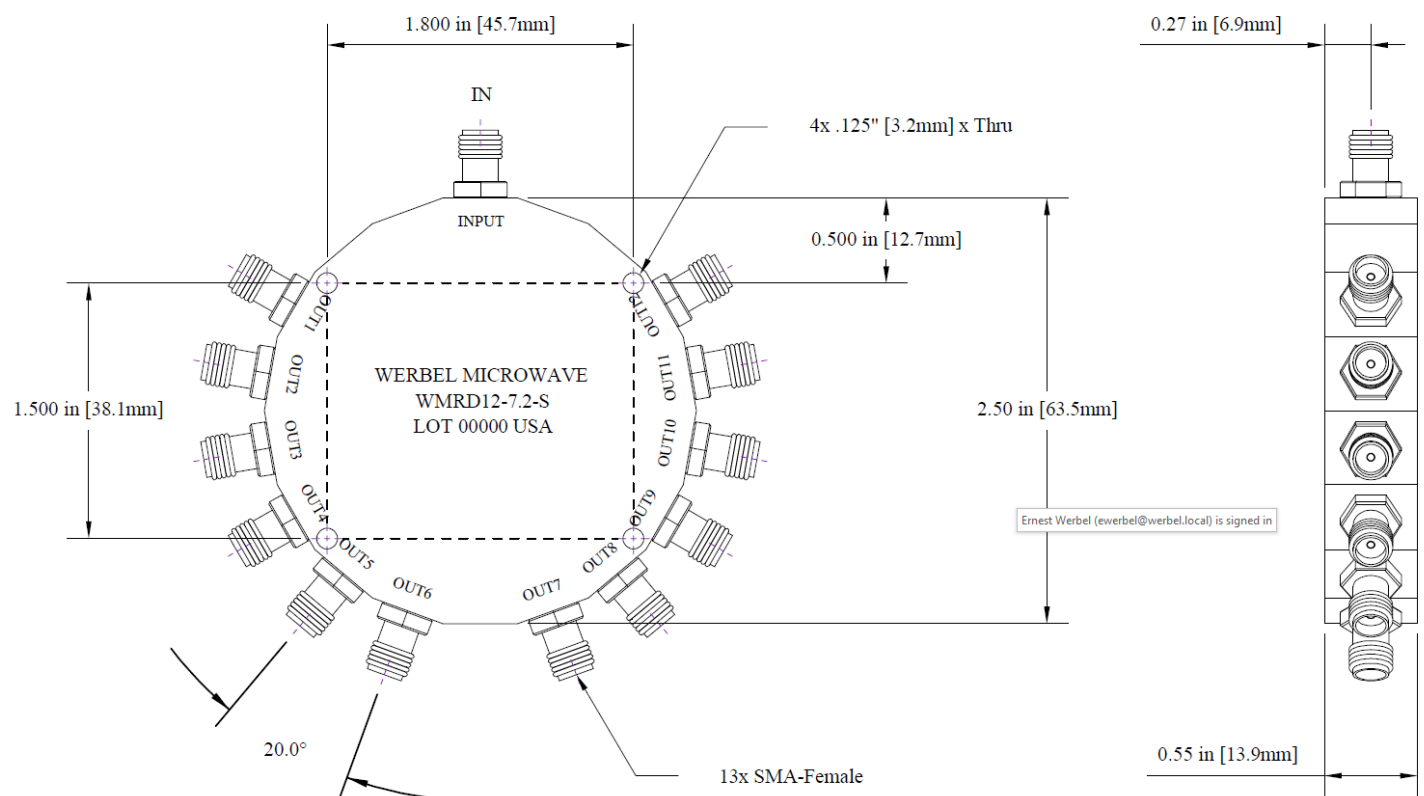
- 0.6 watts CW (shown above) at 500MHz was applied to the DUT input for a duration of 10 minutes.
- The DUT temperature increased from 24.3°C (initial, center marker) to 44.2°C (final, max marker), resulting in a 19.9°C rise.
- 1 watt CW at 500MHz produced a rise temperature of 35°C after 10 minutes.



Typical Performance Data

Frequency (MHz)	Return Loss (dB)			Total Loss (dB)			Isolation (dB)		
	Port S	Port 1	Port 12	S-1	S-6	S-12	1-2	1-4	1-8
1	63.24	55.07	60.07	21.62	21.60	21.60	11.92	11.88	33.50
100	40.63	46.62	48.18	21.61	21.60	21.60	11.92	11.90	33.43
200	34.42	41.27	42.62	21.60	21.59	21.59	11.95	11.94	33.46
300	31.32	38.45	39.72	21.60	21.58	21.58	11.99	11.99	33.51
400	28.95	36.02	36.91	21.58	21.57	21.57	12.03	12.05	33.56
500	27.63	34.96	35.40	21.56	21.56	21.55	12.10	12.11	33.60
600	26.37	33.80	34.28	21.52	21.54	21.52	12.15	12.16	33.64
700	25.31	32.66	32.89	21.49	21.52	21.49	12.21	12.20	33.68
800	24.41	31.30	31.29	21.45	21.50	21.46	12.27	12.24	33.71
900	23.68	30.72	30.44	21.41	21.48	21.42	12.31	12.26	33.73
1000	23.24	29.82	29.22	21.37	21.46	21.39	12.35	12.28	33.75
1500	22.08	25.65	24.19	21.26	21.39	21.27	12.46	12.34	33.80
2000	22.17	21.87	20.11	21.34	21.43	21.33	12.63	12.43	33.82
2500	19.92	18.18	16.60	21.67	21.61	21.64	12.92	12.60	33.92
3000	16.01	15.51	14.28	22.06	21.84	22.02	13.16	12.73	34.27
3500	13.33	13.97	13.06	22.17	21.95	22.17	13.48	12.95	35.25
4000	12.56	12.62	12.10	22.44	22.48	22.49	13.60	13.19	34.17
4500	13.10	12.32	12.09	22.00	22.36	22.04	13.68	13.11	35.80
5000	15.00	12.26	12.71	21.87	21.93	21.45	13.64	12.82	37.12
5500	16.81	12.11	13.81	21.14	21.35	20.85	13.58	12.38	38.32
6000	14.75	12.28	14.55	20.60	20.80	20.47	13.63	12.05	38.67
6500	11.80	12.50	14.48	20.63	20.57	20.53	13.79	11.82	38.24
7000	10.77	12.35	13.19	21.11	20.70	21.01	14.19	11.65	38.04
7500	11.40	12.11	11.84	21.71	21.00	21.60	14.84	11.52	38.83
8000	12.00	11.87	10.62	22.28	21.55	22.24	15.67	11.56	41.98

Outline Dimensions



Outline drawing: OL-R18-12

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

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

Group	A				B				C			
Port	1	2	3	4	5	6	7	8	9	10	11	12

The information contained in this document is accurate to the best of our knowledge and representative of the product described herein at the date of publication. It may be necessary to make modifications to the product and/or documentation of the product. Werbel Microwave LLC reserves the right to make such changes as required without notice. Unless otherwise stated, all specifications and dimensions are nominal. Werbel Microwave LLC does not make any representation or warranty regarding the suitability of the product described herein for any particular purpose or application, and Werbel Microwave LLC does not assume any liability arising out of the use of any part of documentation. This document gives only a description of the product(s) and shall not form part of any contract. Please contact a Werbel Microwave LLC Applications Engineer for the most current specification drawing.

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.