

Resistive Divider, DC-7.2GHz, 16-way, SMA-Female

WMRD16-7.2-S

Description

WMRD16-7.2-S is a 16-way 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 1-16)	9.5	14	-	dB
Insertion Loss (Total Measured Loss)	-	24.1	26.2	dB
Isolation (Within Group)	-	12.0	-	dB
(Between Groups A-B-C-D)	-	36.1	-	dB
Input Power (CW) ¹ up to +30°C; derate linearly to +25dBm at +85°C.	-	-	+30	dBm

Mechanical

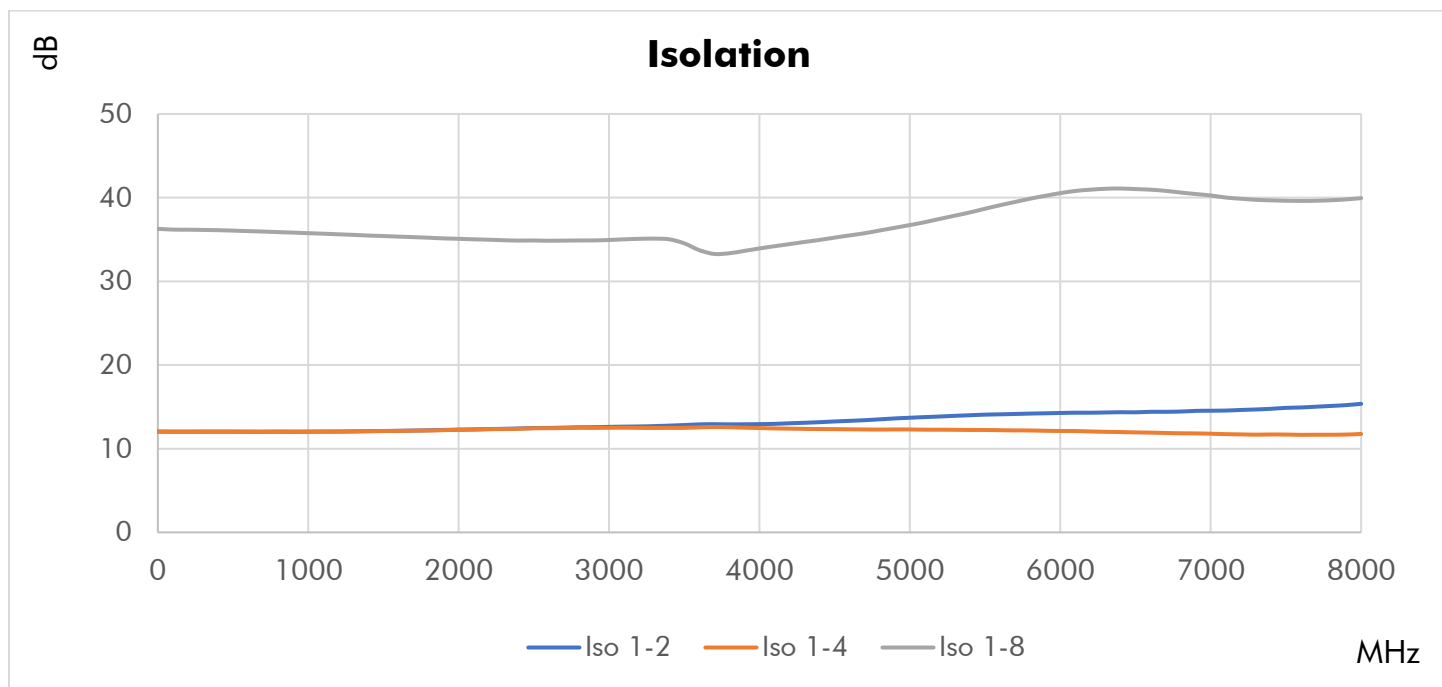
Connector Interface	SMA-Female
Operating Temperature ²	-40 to +85 °C
Storage Temperature	-55 to +100 °C
Weight Estimate	105 g (3.70 oz)
Humidity	10-90% non-condensing
Environment	Indoors Use Only
CAGE Code	78YZ0

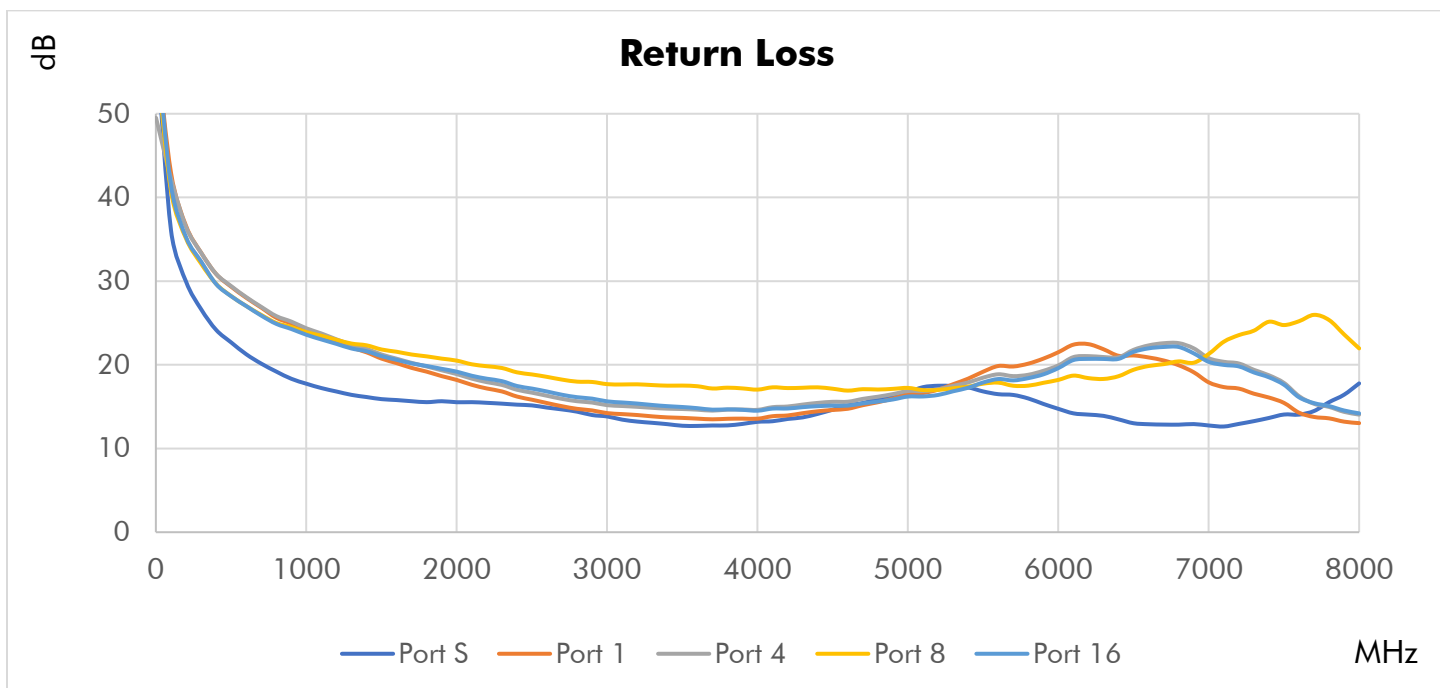
1. All output ports should be terminated in a 50-ohm load with 1.2:1 max VSWR.
2. Electrical specifications at +25 °C only.
3. To the best of our knowledge at the time of publication.

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





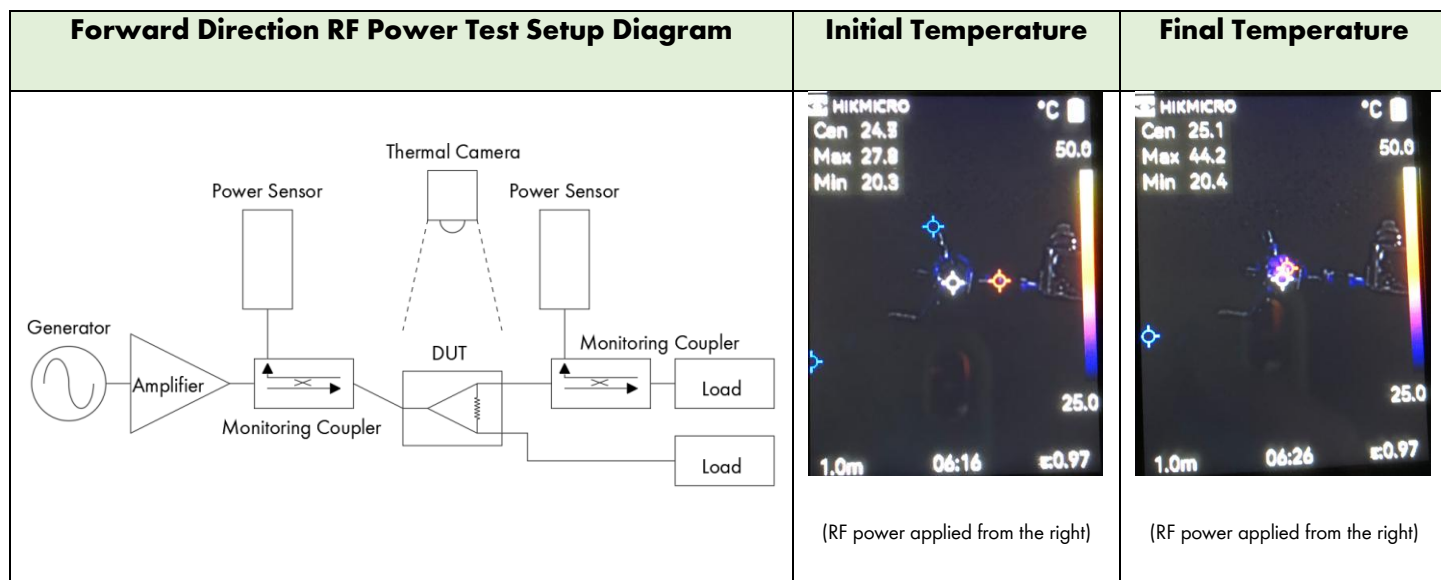
Repeatability in Production



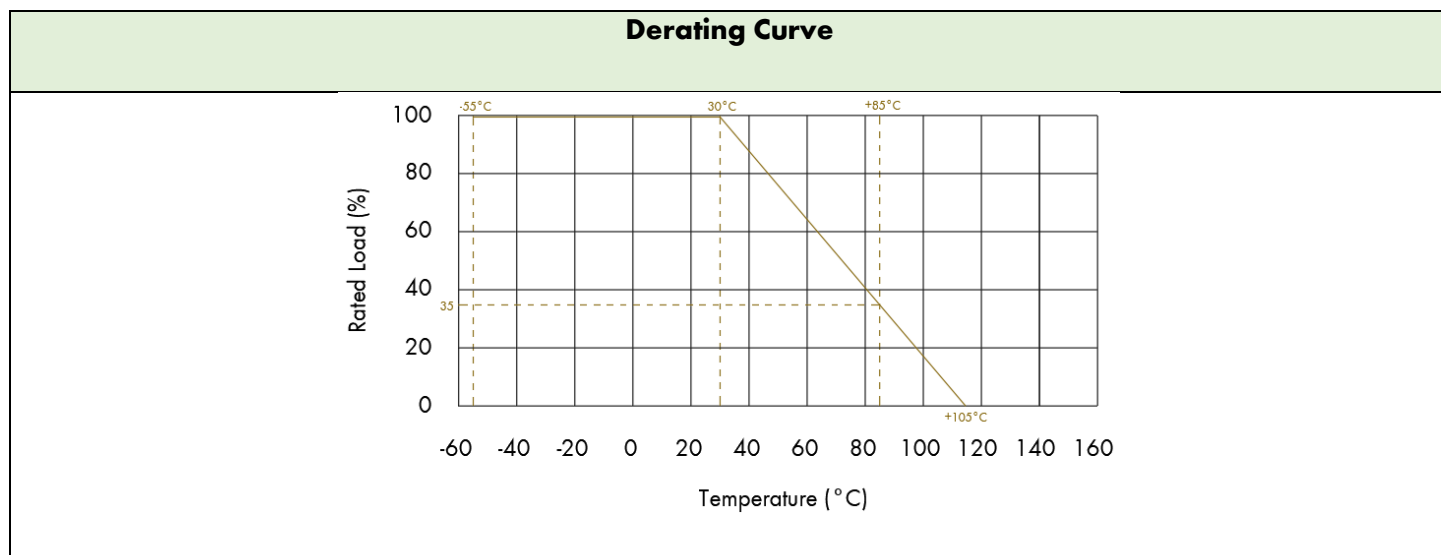
Reliability Testing

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.



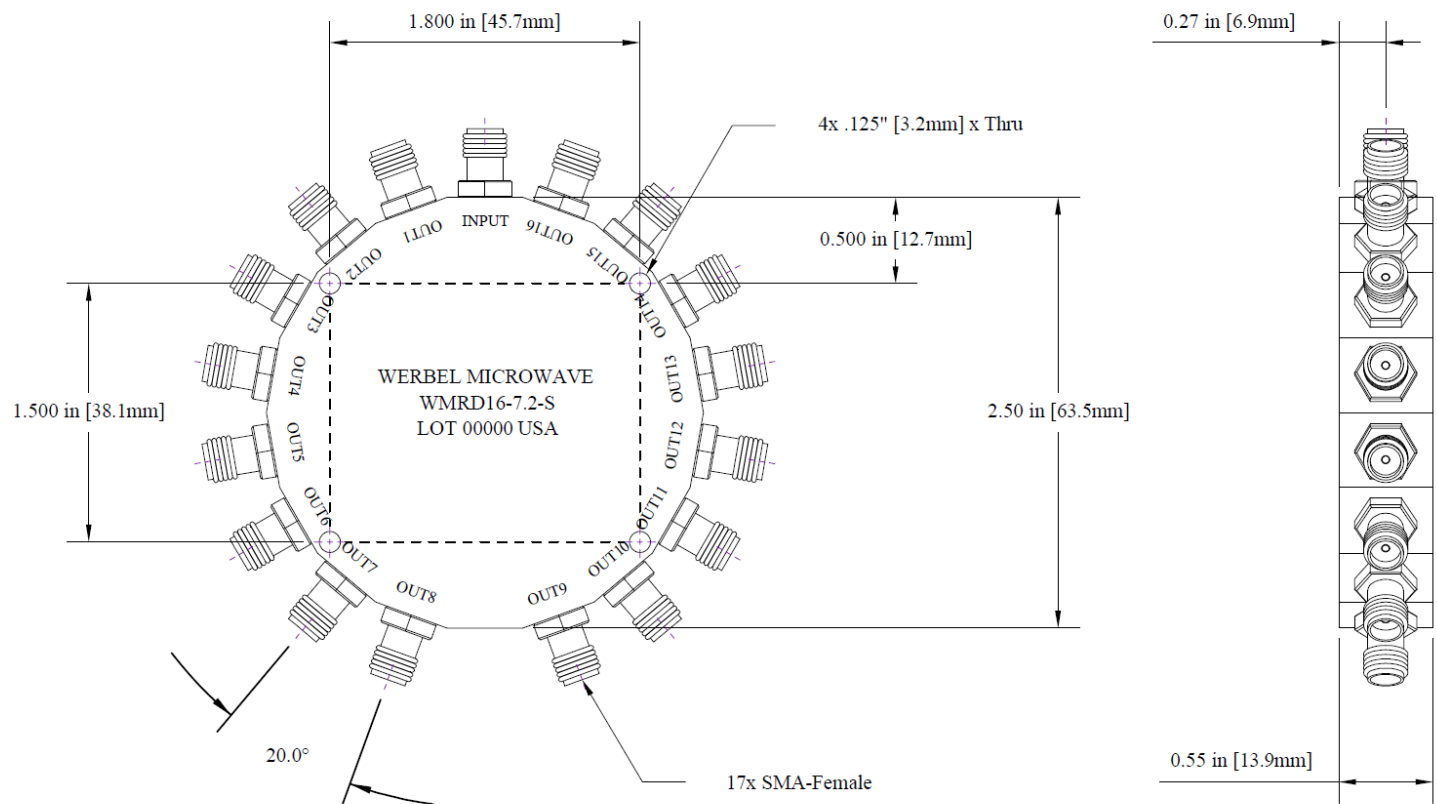
- 0.6 watts CW (shown above) at 500MHz was applied to the DUT input for a duration of 10 minutes.
- The DUT temperature increased from 24.3°C (initial, center marker) to 44.2°C (final, max marker), resulting in a 19.9°C rise.
- 1 watt CW at 500MHz produced a rise temperature of 35°C after 10 minutes.



Typical Performance Data

Frequency (MHz)	Return Loss (dB)			Total Loss (dB)			Isolation (dB)		
	Port S	Port 1	Port 16	S-1	S-8	S-16	1-2	1-4	1-8
1	58.90	58.43	59.18	24.12	24.13	24.11	12.05	12.03	36.27
100	36.03	42.91	41.39	24.10	24.13	24.11	12.04	12.03	36.18
200	29.93	36.59	35.25	24.10	24.12	24.09	12.04	12.03	36.17
300	26.64	33.40	32.35	24.07	24.10	24.06	12.04	12.04	36.14
400	24.17	30.84	29.64	24.04	24.07	24.04	12.04	12.04	36.11
500	22.67	29.33	28.19	24.02	24.03	24.00	12.04	12.04	36.06
600	21.26	28.01	27.02	23.97	23.98	23.96	12.03	12.04	36.00
700	20.14	26.83	25.88	23.93	23.92	23.91	12.03	12.03	35.95
800	19.19	25.62	24.89	23.89	23.86	23.86	12.04	12.04	35.88
900	18.33	24.93	24.28	23.82	23.79	23.81	12.03	12.04	35.82
1000	17.74	24.10	23.59	23.77	23.72	23.73	12.04	12.04	35.75
1500	15.90	20.74	21.04	23.43	23.35	23.40	12.12	12.11	35.41
2000	15.53	18.19	19.18	23.09	23.02	23.08	12.28	12.26	35.08
2500	15.15	15.83	17.16	23.01	22.81	23.01	12.47	12.44	34.88
3000	13.83	14.23	15.63	23.26	22.71	23.23	12.61	12.50	34.94
3500	12.72	13.66	14.96	23.77	22.54	23.71	12.83	12.49	34.53
4000	13.19	13.56	14.52	24.53	23.10	24.47	12.94	12.47	33.93
4500	14.64	14.61	15.12	24.38	23.11	24.40	13.26	12.34	35.23
5000	16.72	16.46	16.21	24.03	23.21	24.03	13.70	12.30	36.73
5500	16.82	19.18	17.89	23.44	23.48	23.45	14.07	12.24	38.68
6000	14.74	21.51	19.61	22.83	23.69	22.87	14.27	12.12	40.54
6500	13.02	21.12	21.55	22.62	24.06	22.60	14.35	11.95	41.02
7000	12.75	17.90	20.35	22.85	24.36	22.78	14.54	11.79	40.26
7500	14.06	15.45	17.62	23.49	24.41	23.40	14.88	11.69	39.63
8000	17.78	13.03	14.20	24.21	24.40	24.16	15.36	11.76	39.94

Outline Dimensions



Outline drawing: OL-R18-16
Dimensions are in inches, [mm] shown for convenience.
Tolerances on 2-pl decimals: ±.03. 3-pl decimals: ± .015.

Group	A				B				C				D			
Port	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

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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.