

Resistive Divider, DC-7.2GHz, 9-way, SMA-Female

WMRD09-7.2-S

Description

WMRD09-7.2-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 1-9)	9.5	14	-	dB
Insertion Loss	(Total Measured Loss)	-	19.1	21.9	dB
Isolation	(Within Group)	-	9.5	-	dB
	(Between Groups A-B-C)	-	28.5	-	dB
Input Power (CW) ¹ up to +30°C; derate linearly to +25dBm at +85°C.		-	-	+30	dBm

Mechanical

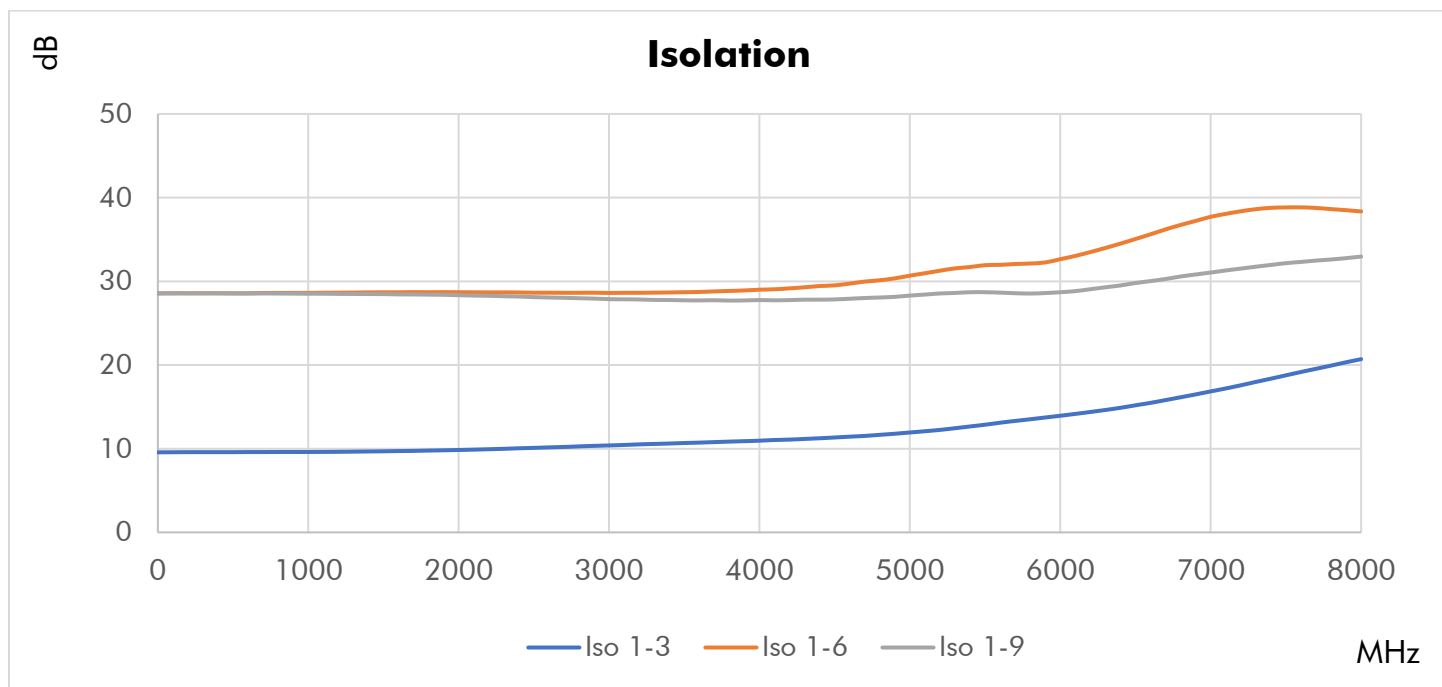
Connector Interface	SMA-Female
Operating Temperature ²	-40 to +85 °C
Storage Temperature	-55 to +100 °C
Weight Estimate	60.8 g (2.14 oz)
Humidity	10-90% non-condensing
Environment	Indoors Use Only
CAGE Code	78YZ0

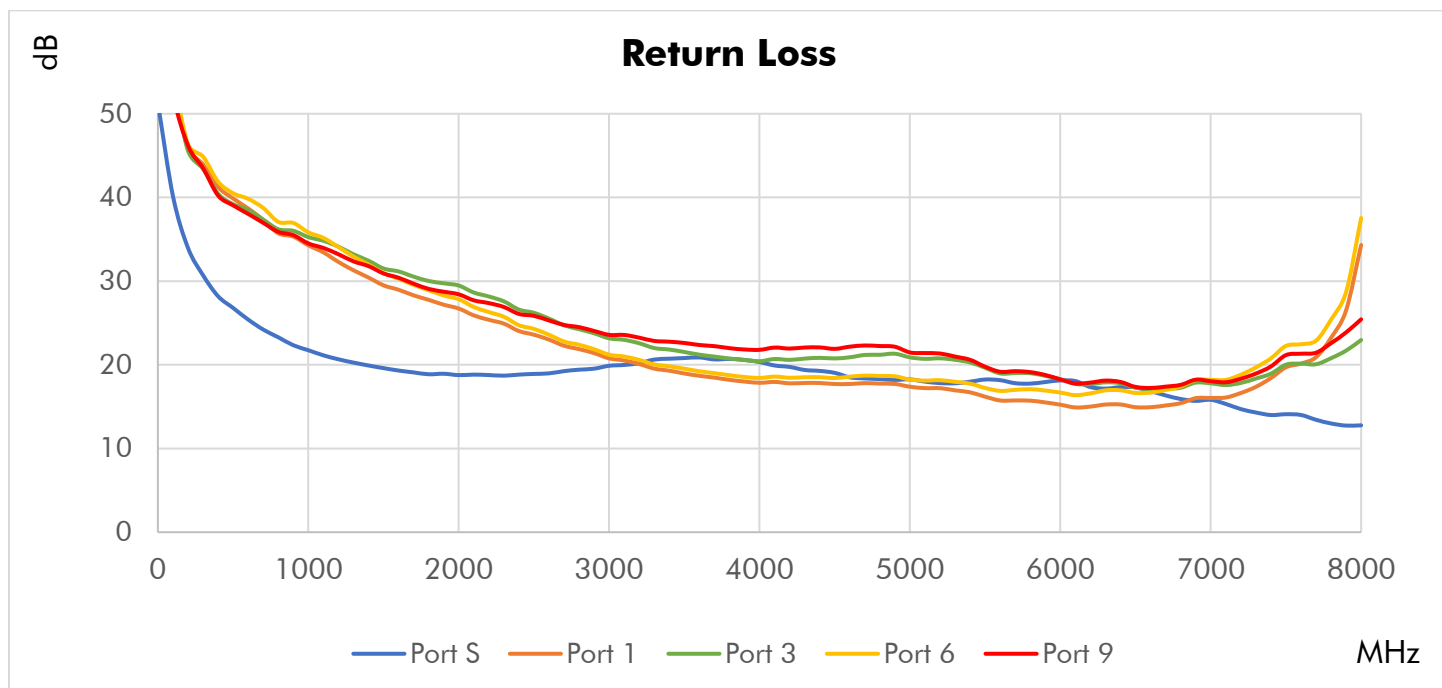
1. All output ports should be terminated in a 50-ohm load with 1.2:1 max VSWR.
2. Electrical specifications at +25 °C only.
3. To the best of our knowledge at the time of publication.

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





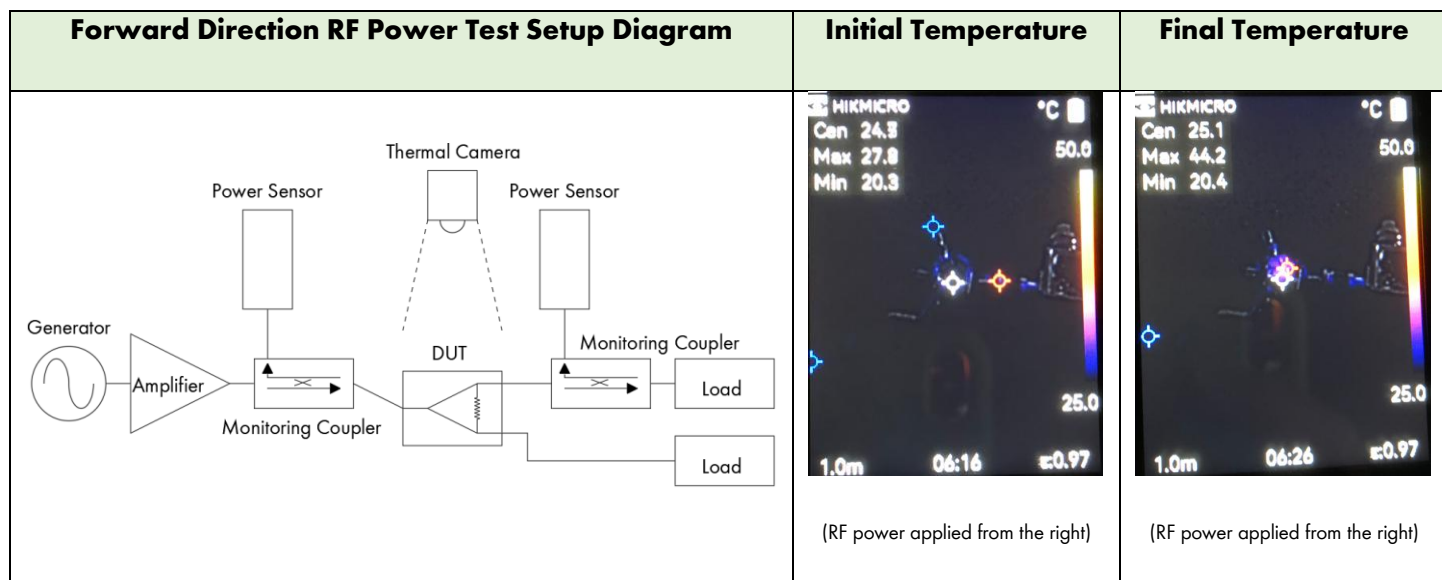
Repeatability in Production



Reliability Testing

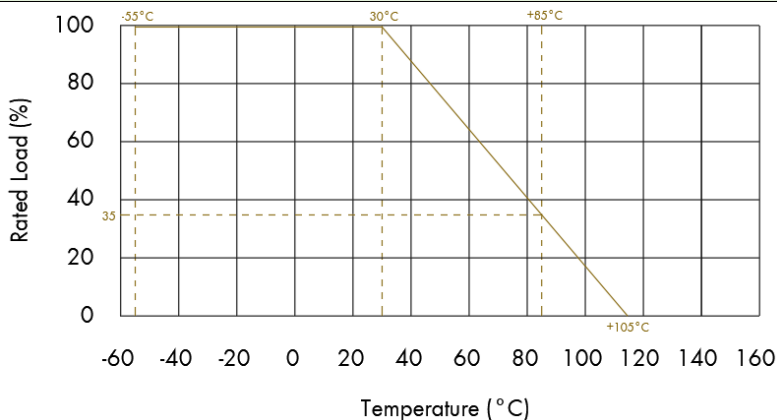
RF power test was performed to determine the input power required to produce a nominal temperature rise of 20°C at the hottest point. The test was performed at room temperature without forced air. A heatsink was not used unless it came standard with the product.

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.

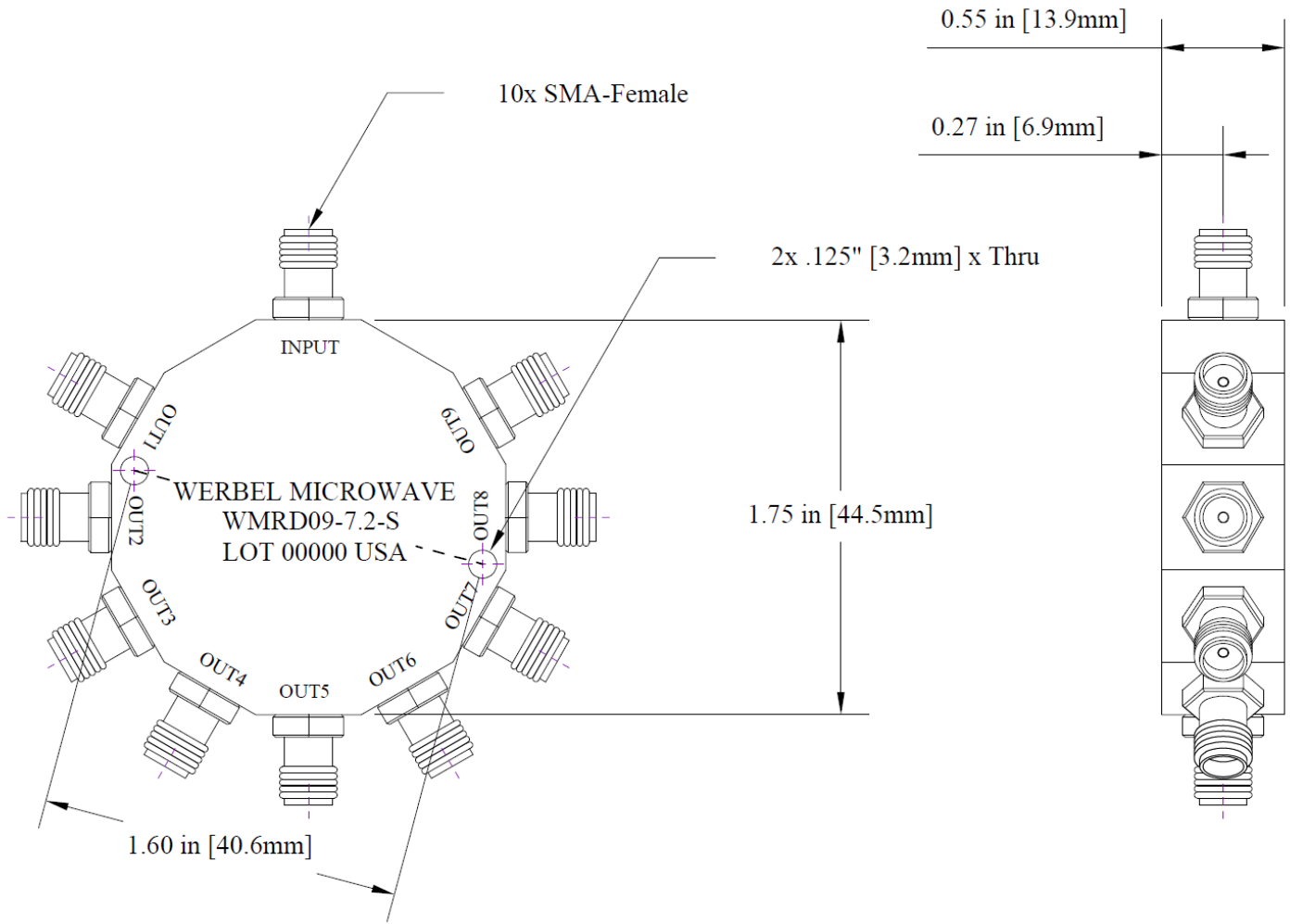
Derating Curve



Typical Performance Data

Frequency (MHz)	Return Loss (dB)			Total Loss (dB)			Isolation (dB)		
	Port S	Port 1	Port 9	S-1	S-5	S-9	1-2	1-5	1-9
1	51.17	56.66	63.69	19.07	19.08	19.04	9.57	28.56	28.56
100	40.11	52.99	52.38	19.06	19.07	19.03	9.58	28.57	28.57
200	33.94	45.98	46.18	19.06	19.07	19.03	9.59	28.57	28.57
300	30.69	43.94	43.49	19.05	19.07	19.03	9.59	28.57	28.57
400	28.18	41.24	40.22	19.04	19.07	19.02	9.59	28.58	28.56
500	26.79	39.86	39.05	19.02	19.06	19.01	9.59	28.58	28.54
600	25.40	38.68	38.03	18.99	19.05	18.99	9.60	28.58	28.54
700	24.21	37.31	36.96	18.97	19.05	18.98	9.60	28.61	28.55
800	23.29	35.72	35.88	18.95	19.03	18.96	9.61	28.61	28.54
900	22.34	35.32	35.50	18.91	19.02	18.94	9.61	28.62	28.53
1000	21.74	34.28	34.50	18.87	19.00	18.91	9.61	28.62	28.52
1500	19.60	29.49	30.91	18.68	18.88	18.75	9.69	28.69	28.47
2000	18.77	26.72	28.42	18.45	18.69	18.51	9.85	28.70	28.34
2500	18.91	23.60	25.85	18.25	18.45	18.23	10.10	28.64	28.11
3000	19.89	20.77	23.58	18.12	18.24	18.01	10.39	28.61	27.87
3500	20.81	18.97	22.61	18.11	18.09	17.99	10.68	28.70	27.73
4000	20.33	17.85	21.79	18.20	18.02	18.11	10.96	29.00	27.76
4500	19.04	17.71	21.91	18.32	18.01	18.27	11.34	29.52	27.84
5000	18.26	17.38	21.48	18.55	18.07	18.42	11.94	30.68	28.30
5500	18.25	16.19	19.77	18.81	18.20	18.59	12.87	31.93	28.70
6000	18.14	15.23	18.25	19.06	18.45	18.79	13.94	32.65	28.70
6500	17.31	14.93	17.35	19.29	18.77	19.11	15.19	35.06	29.80
7000	15.82	16.04	18.04	19.62	19.37	19.58	16.85	37.71	31.05
7500	14.10	19.71	21.16	19.88	20.27	20.01	18.77	38.83	32.17
8000	12.77	34.32	25.44	20.02	21.47	20.31	20.70	38.35	32.96

Outline Dimensions



Outline drawing: OL-R12-09

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

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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.