

Resistive Divider, DC-7.2GHz, 10-way, SMA-Female

WMRD10-7.2-S

Description

WMRD10-7.2-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 1-10)	9.5	14	-	dB
Insertion Loss (Total Measured Loss)	-	20.0	21.9	dB
Isolation (Within Group)	-	14.1	-	dB
(Between Groups A-B)	-	34.1	-	dB
Input Power (CW) ¹ up to +30°C; derate linearly to +25dBm at +85°C.	-	-	+30	dBm

Mechanical

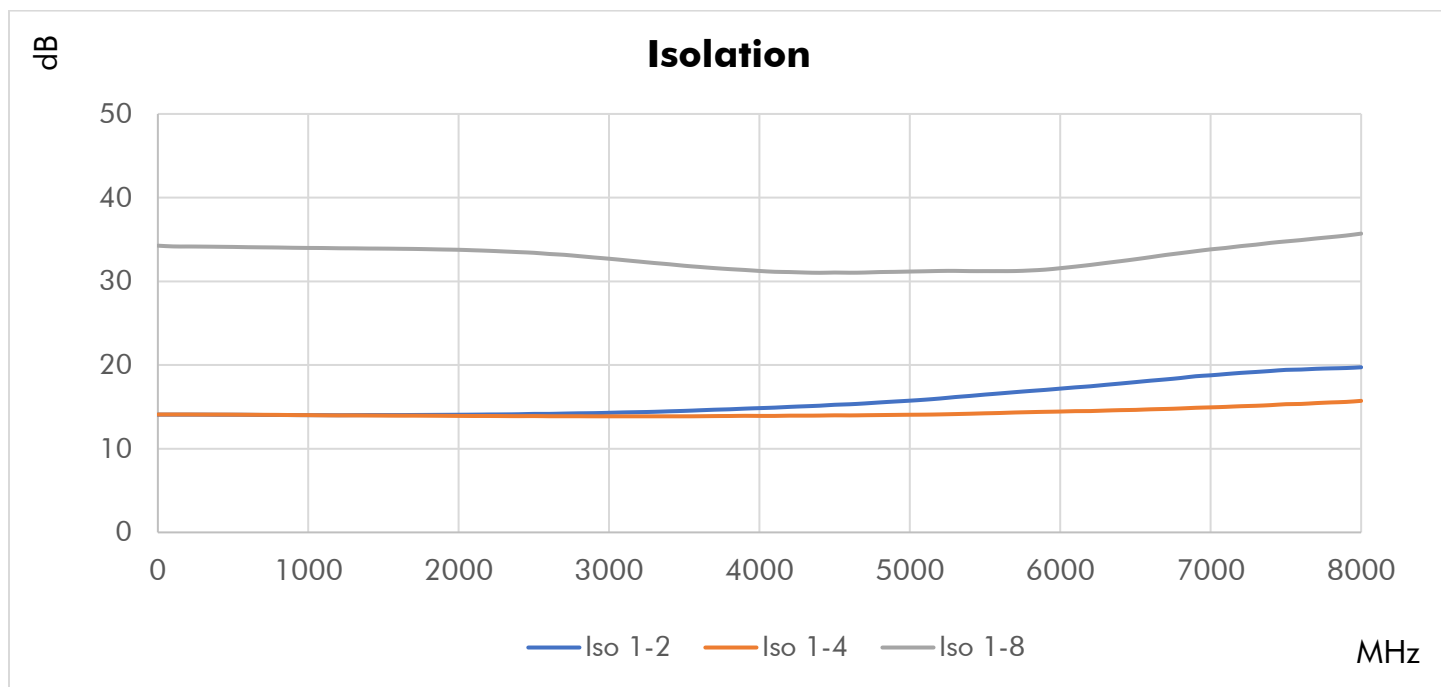
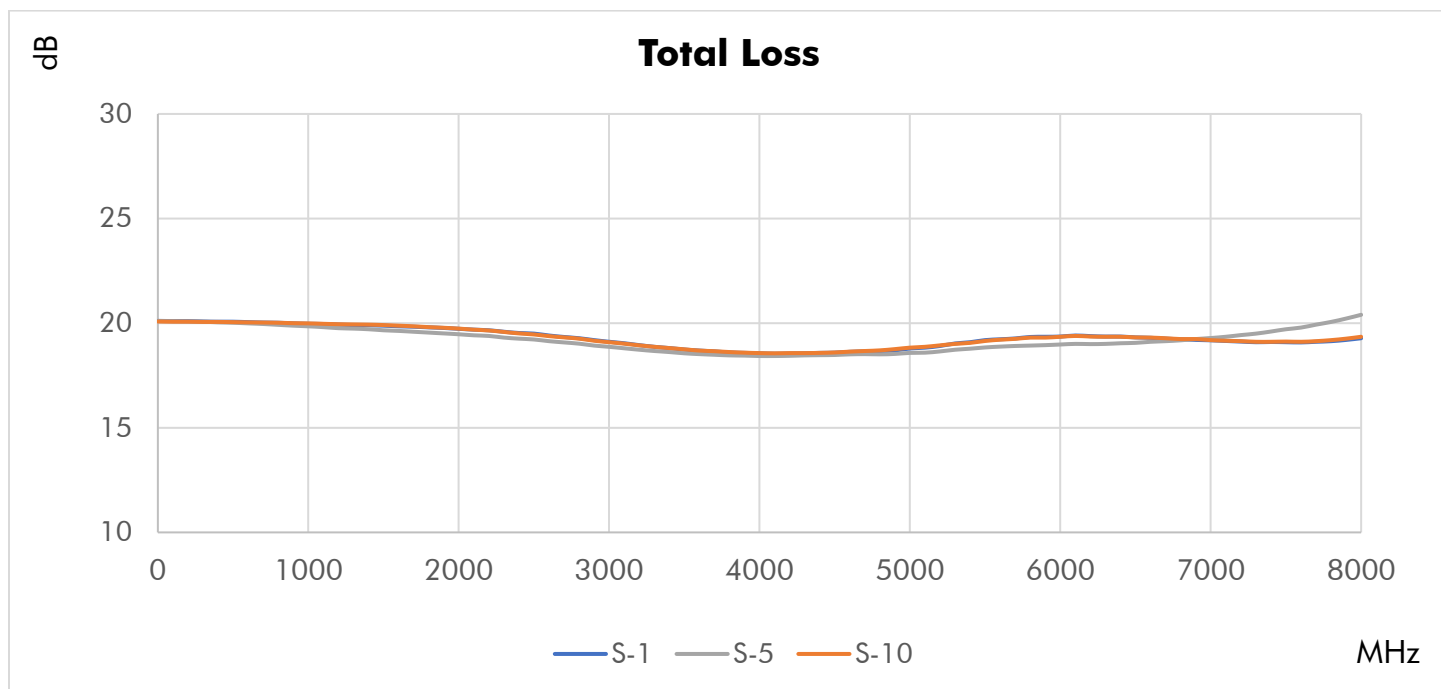
Connector Interface	SMA-Female
Operating Temperature ²	-40 to +85 °C
Storage Temperature	-55 to +100 °C
Weight Estimate	63.9 g (2.25 oz)
Humidity	10-90% non-condensing
Environment	Indoors Use Only
CAGE Code	78YZ0

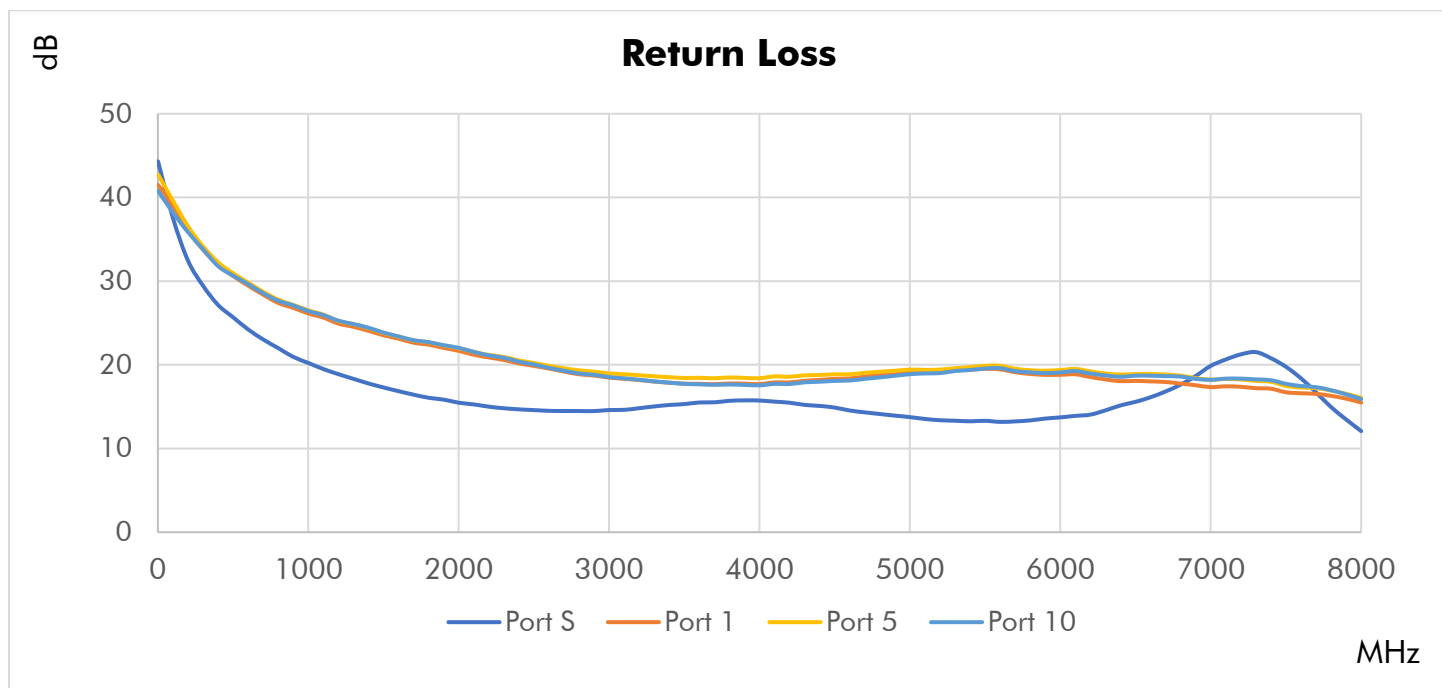
1. All output ports should be terminated in a 50-ohm load with 1.2:1 max VSWR.
2. Electrical specifications at +25 °C only.
3. To the best of our knowledge at the time of publication.

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





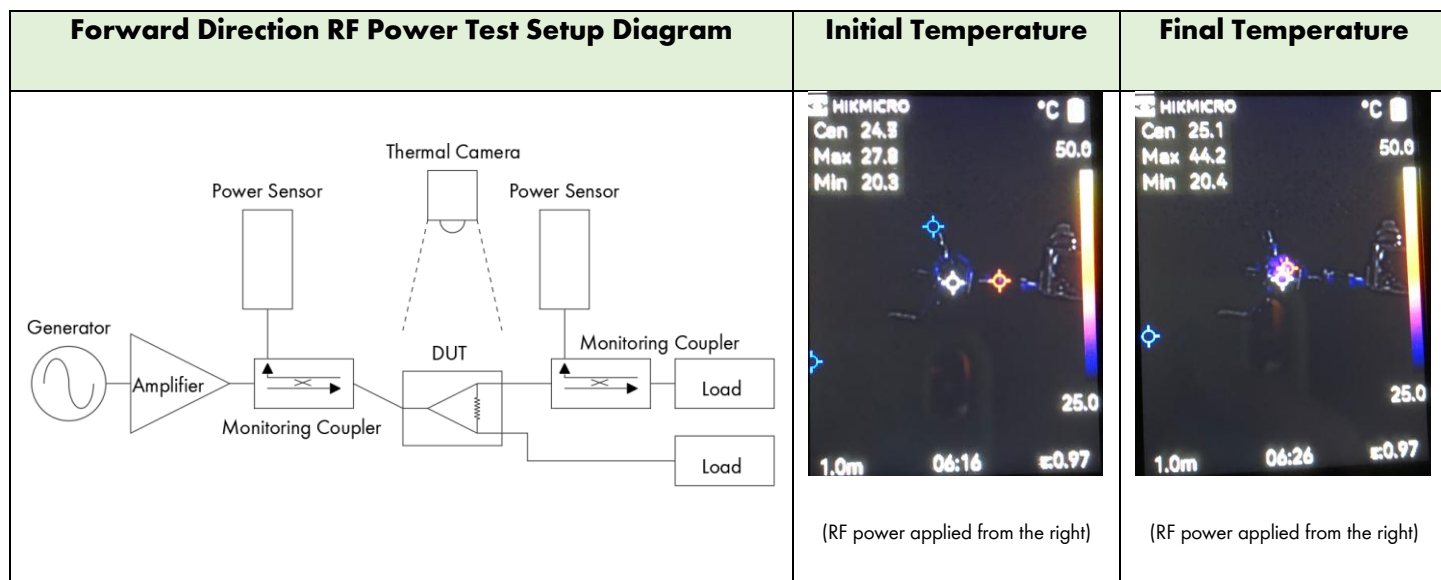
Repeatability in Production



Reliability Testing

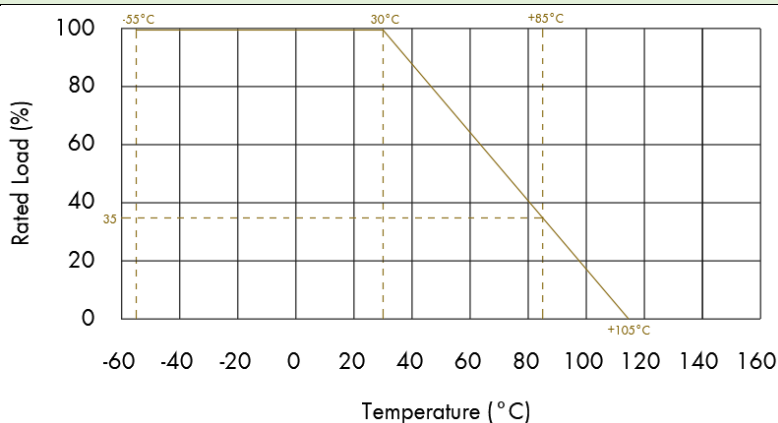
RF power test was performed to determine the input power required to produce a nominal temperature rise of 20°C at the hottest point. The test was performed at room temperature without forced air. A heatsink was not used unless it came standard with the product.

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.

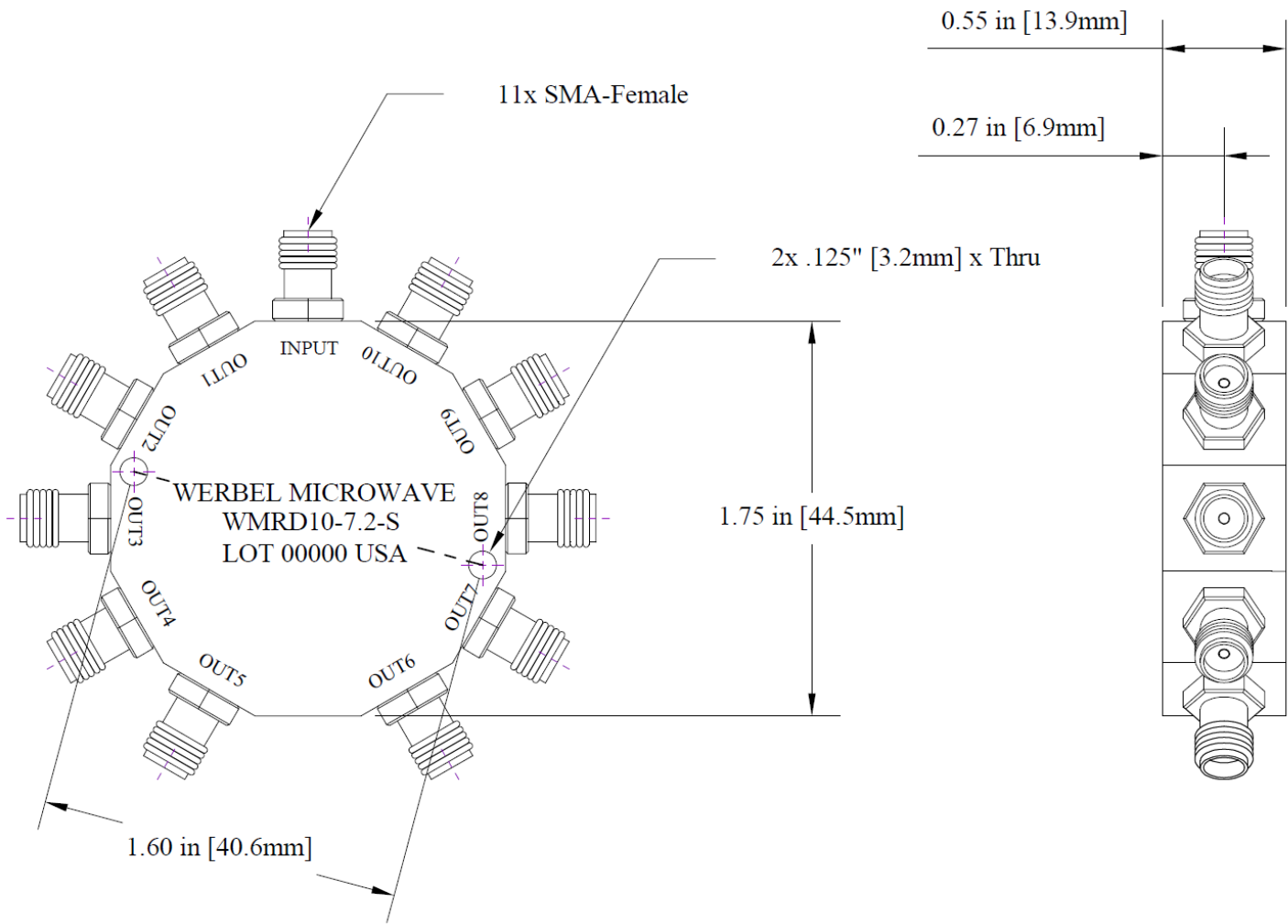
Derating Curve



Typical Performance Data

Frequency (MHz)	Return Loss (dB)			Total Loss (dB)			Isolation (dB)		
	Port S	Port 1	Port 10	S-1	S-5	S-10	1-2	1-4	1-8
1	44.31	41.50	40.80	20.11	20.10	20.08	14.07	14.09	34.26
100	37.50	39.03	38.17	20.10	20.09	20.07	14.07	14.09	34.17
200	32.42	36.04	35.84	20.10	20.08	20.07	14.07	14.09	34.16
300	29.43	33.74	33.80	20.08	20.07	20.06	14.07	14.08	34.15
400	27.14	31.91	31.78	20.07	20.04	20.06	14.06	14.08	34.13
500	25.67	30.60	30.65	20.07	20.02	20.05	14.06	14.07	34.11
600	24.22	29.45	29.64	20.05	19.99	20.04	14.05	14.06	34.08
700	23.02	28.37	28.55	20.03	19.96	20.03	14.03	14.05	34.06
800	21.99	27.39	27.65	20.02	19.92	20.02	14.03	14.04	34.04
900	20.94	26.80	27.10	19.99	19.88	20.00	14.02	14.02	34.01
1000	20.22	26.13	26.42	19.97	19.85	19.99	14.01	14.01	33.99
1500	17.29	23.53	23.85	19.88	19.66	19.91	14.02	13.96	33.91
2000	15.47	21.67	22.03	19.73	19.47	19.74	14.06	13.92	33.77
2500	14.59	19.87	20.04	19.50	19.22	19.46	14.16	13.90	33.41
3000	14.60	18.47	18.53	19.11	18.87	19.09	14.29	13.87	32.70
3500	15.31	17.75	17.73	18.74	18.56	18.75	14.52	13.87	31.86
4000	15.73	17.70	17.55	18.56	18.43	18.57	14.85	13.92	31.24
4500	14.89	18.32	18.08	18.59	18.48	18.60	15.25	13.99	31.05
5000	13.75	19.10	18.88	18.79	18.58	18.83	15.74	14.06	31.17
5500	13.31	19.52	19.56	19.19	18.84	19.15	16.47	14.23	31.22
6000	13.72	18.81	19.09	19.36	18.98	19.35	17.18	14.44	31.57
6500	15.58	18.08	18.70	19.32	19.06	19.32	17.96	14.64	32.64
7000	19.88	17.34	18.21	19.18	19.29	19.19	18.77	14.94	33.82
7500	19.76	16.72	17.73	19.09	19.71	19.12	19.42	15.32	34.77
8000	12.08	15.49	15.91	19.28	20.40	19.35	19.73	15.72	35.70

Outline Dimensions



Outline drawing: OL-R12-10
Dimensions are in inches, [mm] shown for convenience.
Tolerances on 2-pl decimals: ± 0.03 . 3-pl decimals: ± 0.015 .

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

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