WERBEL MICROWAVE LLC
628 State Route 10, Unit 14
Whippany, N.J. 07981
www.WerbelMicrowave.com

Resistive Divider, DC-7.2GHz, 5-way, SMA-Female — WMRD05-7.2-S

Description

WMRD05-7.2-S is a resistive splitter that covers up to 7.2GHz with ultra-wide bandwidth. This star topology 5-way design is useful to combine several low power signals within a wide radio spectrum. Its applications fit 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 1-5)	9.5	14	–	dB
Insertion Loss (Total Measured Loss)	–	14.0	15.2	dB
Isolation	–	14.0	–	dB
Input Power (CW)[1] up to +30°C; derate linearly to +25dBm at +85°C.	–	–	+30	dBm

Mechanical

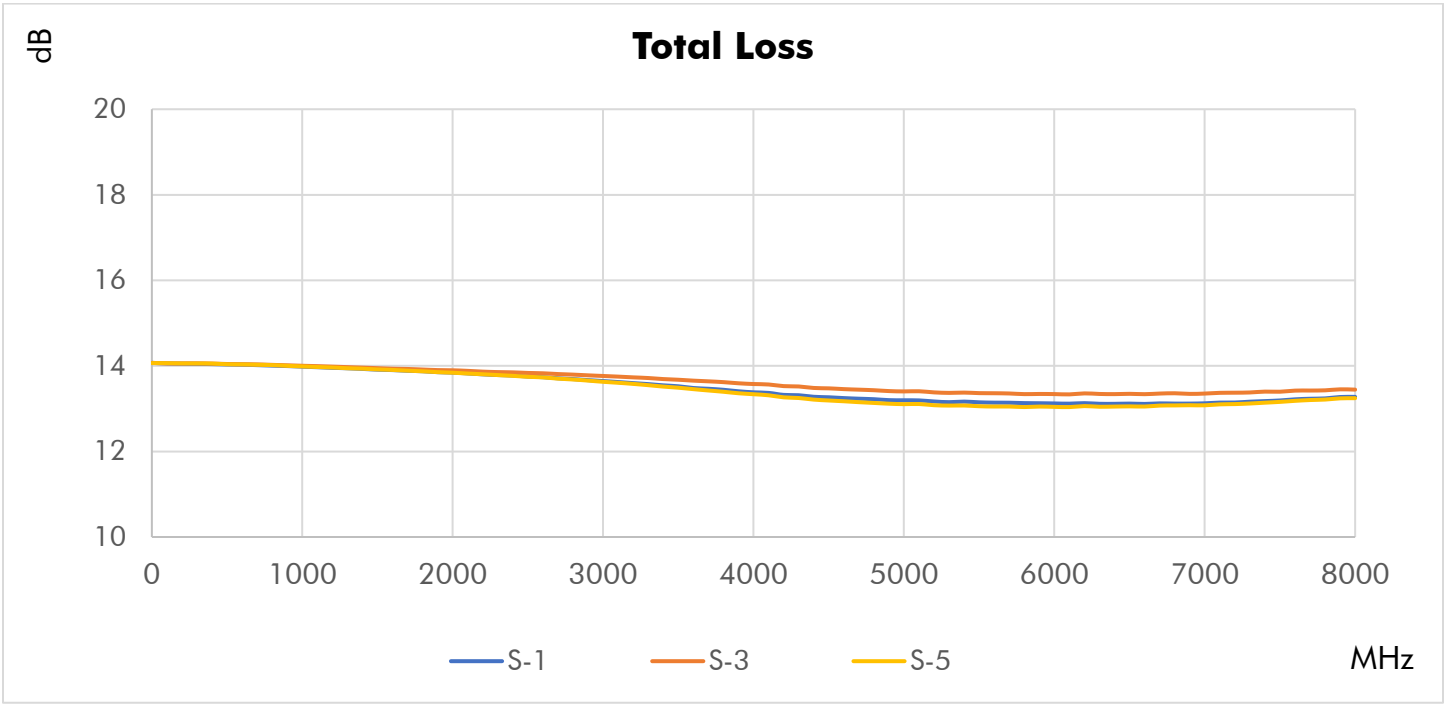
Connector Interface	SMA-Female
Operating Temperature[2]	-40 to +85 °C
Storage Temperature	-55 to +100 °C
Weight Estimate	27.4 g (0.97 oz)
Humidity	10-90% non-condensing
Environment	Indoors Use Only
CAGE Code	78YZ0

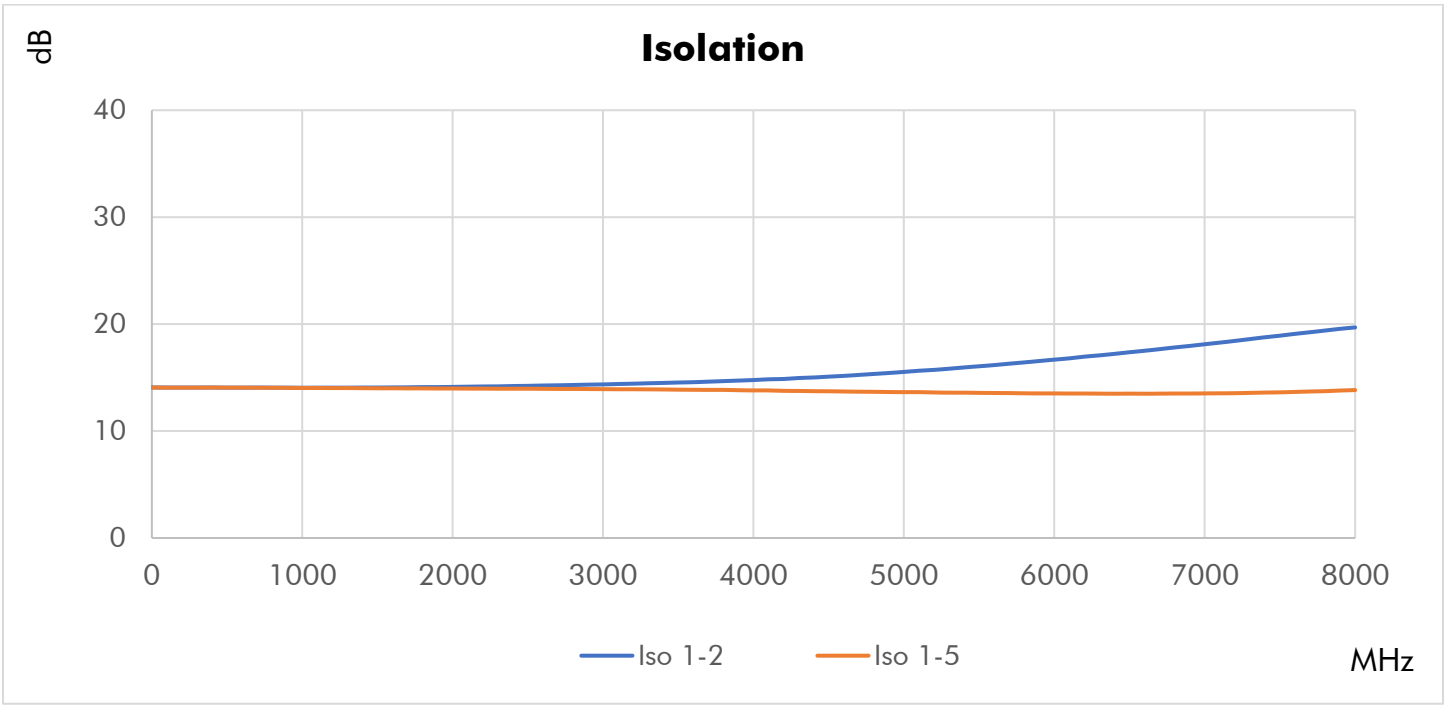
Materials

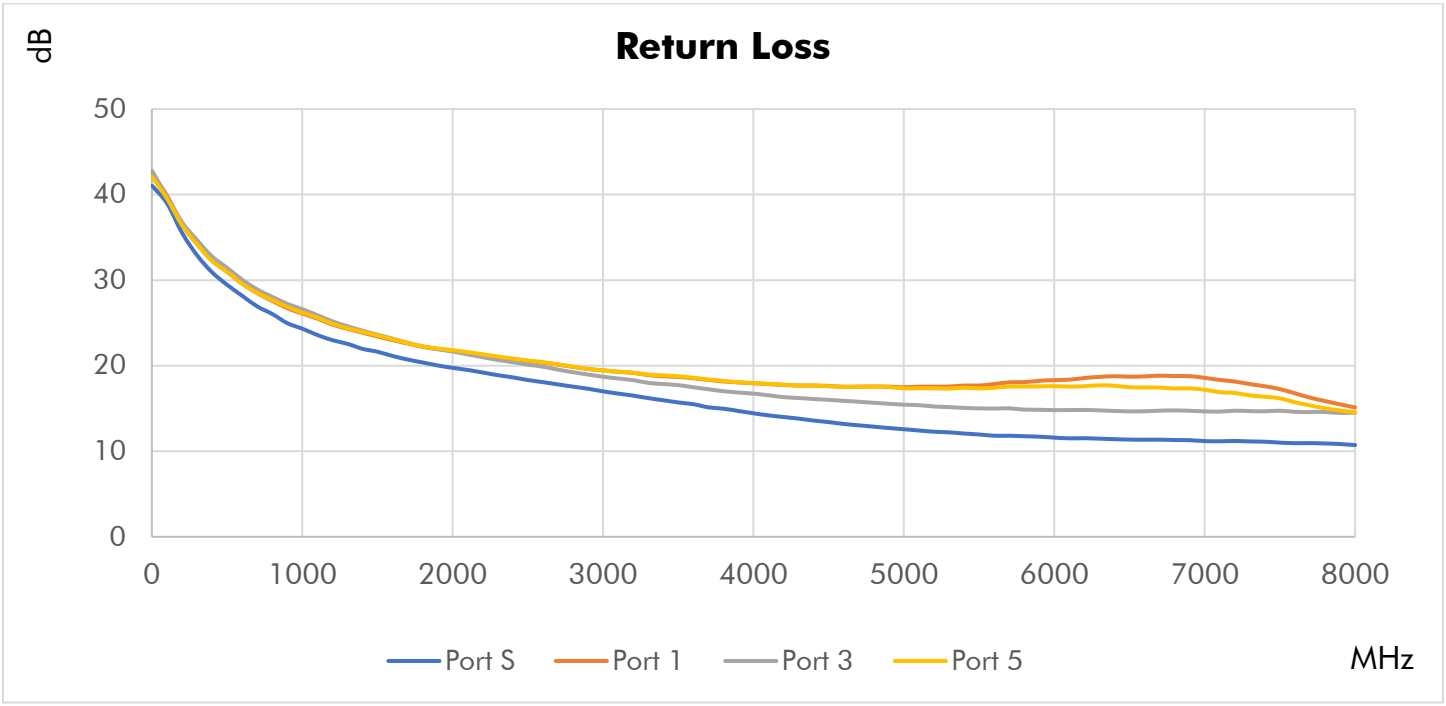
RoHS Compliant[3]	Yes
REACH Compliant[3]	Yes
Enclosure	Aluminum
Connectors	Brass, Gold Plated
Contacts	Be Cu, Gold Plated
Insulators	PTFE
Finish	Green Paint

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.

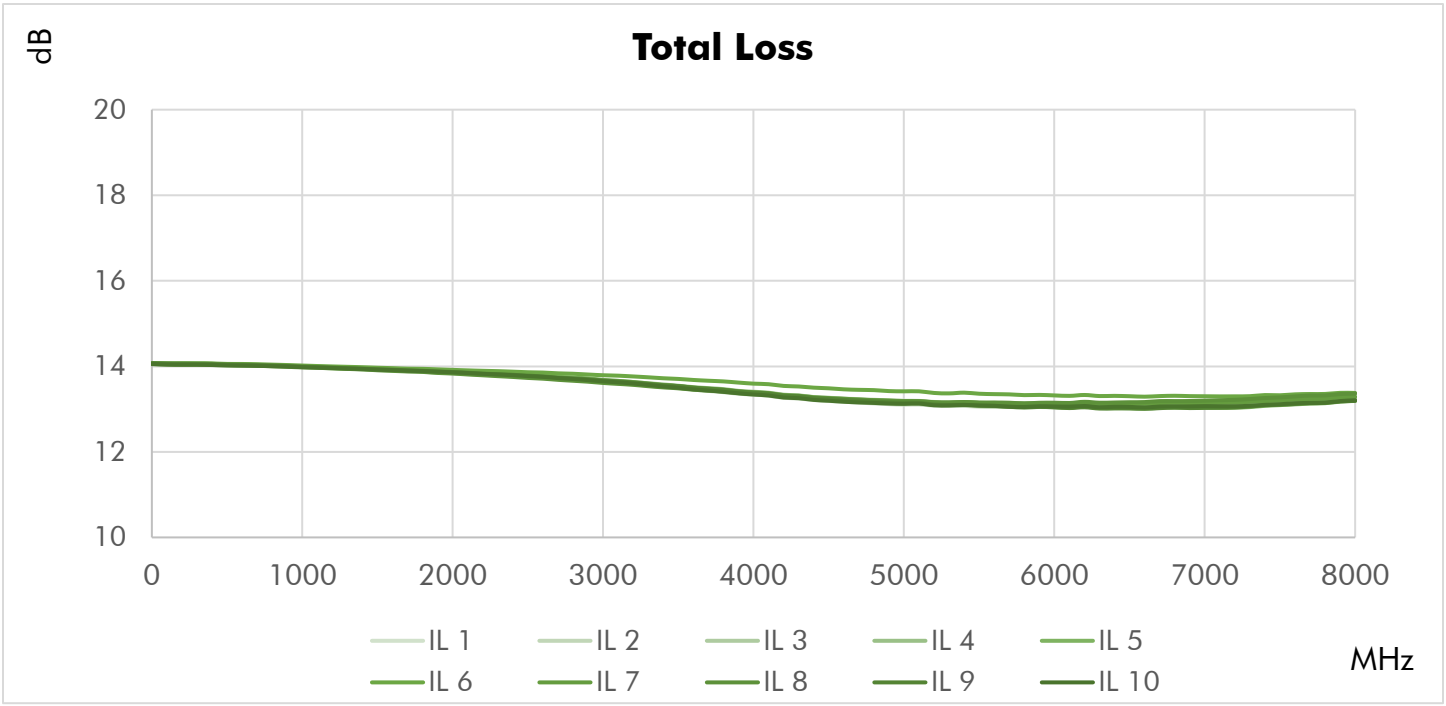
Typical Performance at +25 °C







Repeatability in Production



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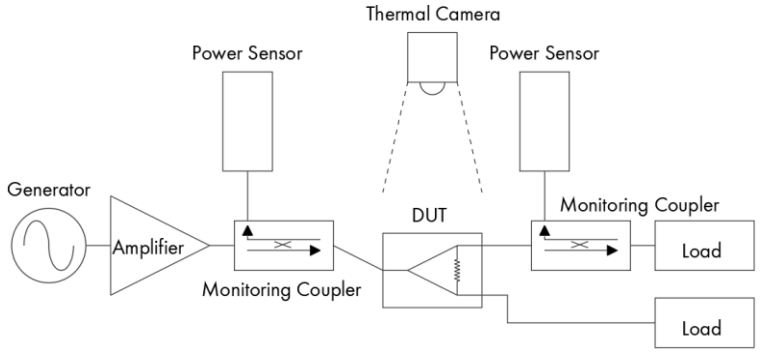
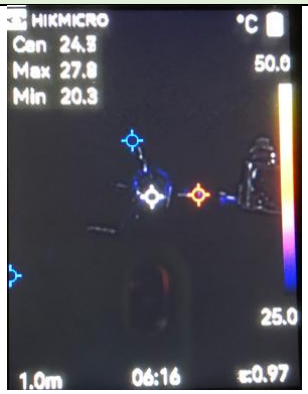
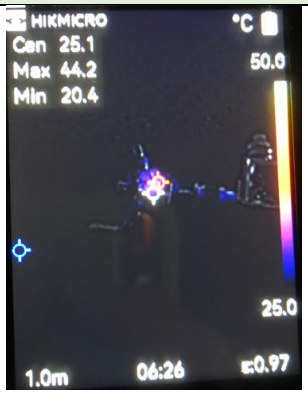
Reliability Testing

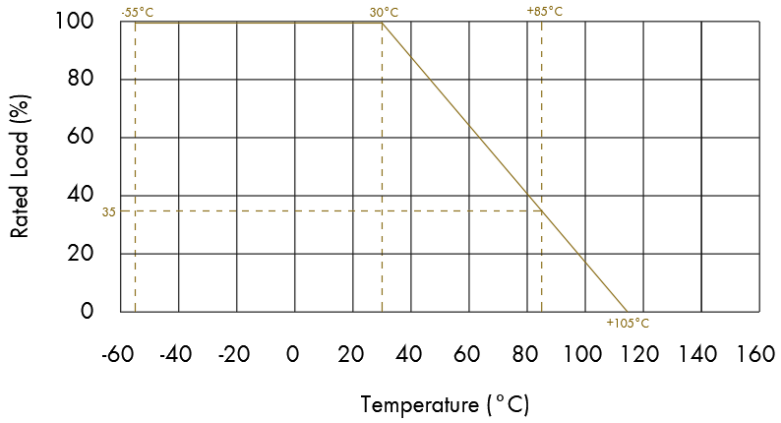
RF power test was performed to determine the input power required to produce a nominal temperature rise of 20°C at the hottest point. The test was performed at room temperature without forced air. A heatsink was not used unless it came standard with the product.

Model WMRD03-7.2-S is shown. Derivative models' details arrived at by similarity until they are individually tested and datasheets updated.

Forward Direction RF Power Test Setup Diagram	Initial Temperature	Final Temperature
	 (RF power applied from the right)	 (RF power applied from the right)

- 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



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Typical Performance Data

Frequency (MHz)	Return Loss (dB)			Total Loss (dB)		Isolation (dB)	
	Port S	Port 1	Port 5	S-1	S-5	1-2	1-5
1	41.05	42.46	42.06	14.07	14.07	14.08	14.07
100	38.98	39.87	39.52	14.06	14.06	14.07	14.06
200	35.52	36.53	36.42	14.05	14.06	14.07	14.06
300	32.90	34.23	34.17	14.05	14.06	14.07	14.06
400	30.91	32.27	32.23	14.04	14.05	14.07	14.07
500	29.45	30.96	30.96	14.03	14.04	14.06	14.06
600	28.17	29.59	29.56	14.03	14.03	14.06	14.06
700	26.93	28.47	28.51	14.02	14.03	14.07	14.05
800	26.04	27.58	27.68	14.01	14.02	14.06	14.05
900	24.97	26.72	26.86	14.00	14.00	14.06	14.04
1000	24.32	26.10	26.21	13.98	13.99	14.05	14.03
1500	21.63	23.42	23.54	13.91	13.92	14.07	14.00
2000	19.75	21.75	21.80	13.84	13.84	14.13	13.98
2500	18.32	20.56	20.61	13.75	13.75	14.23	13.96
3000	17.00	19.45	19.45	13.65	13.63	14.36	13.92
3500	15.70	18.68	18.76	13.52	13.49	14.54	13.87
4000	14.44	17.95	17.97	13.38	13.34	14.77	13.80
4500	13.41	17.63	17.60	13.27	13.19	15.09	13.72
5000	12.57	17.48	17.35	13.20	13.11	15.53	13.64
5500	11.96	17.68	17.34	13.15	13.06	16.06	13.57
6000	11.59	18.31	17.61	13.12	13.04	16.68	13.52
6500	11.36	18.71	17.48	13.12	13.05	17.37	13.50
7000	11.19	18.58	17.19	13.13	13.08	18.12	13.52
7500	11.01	17.26	16.19	13.19	13.16	18.92	13.62
8000	10.72	15.12	14.55	13.28	13.25	19.69	13.83

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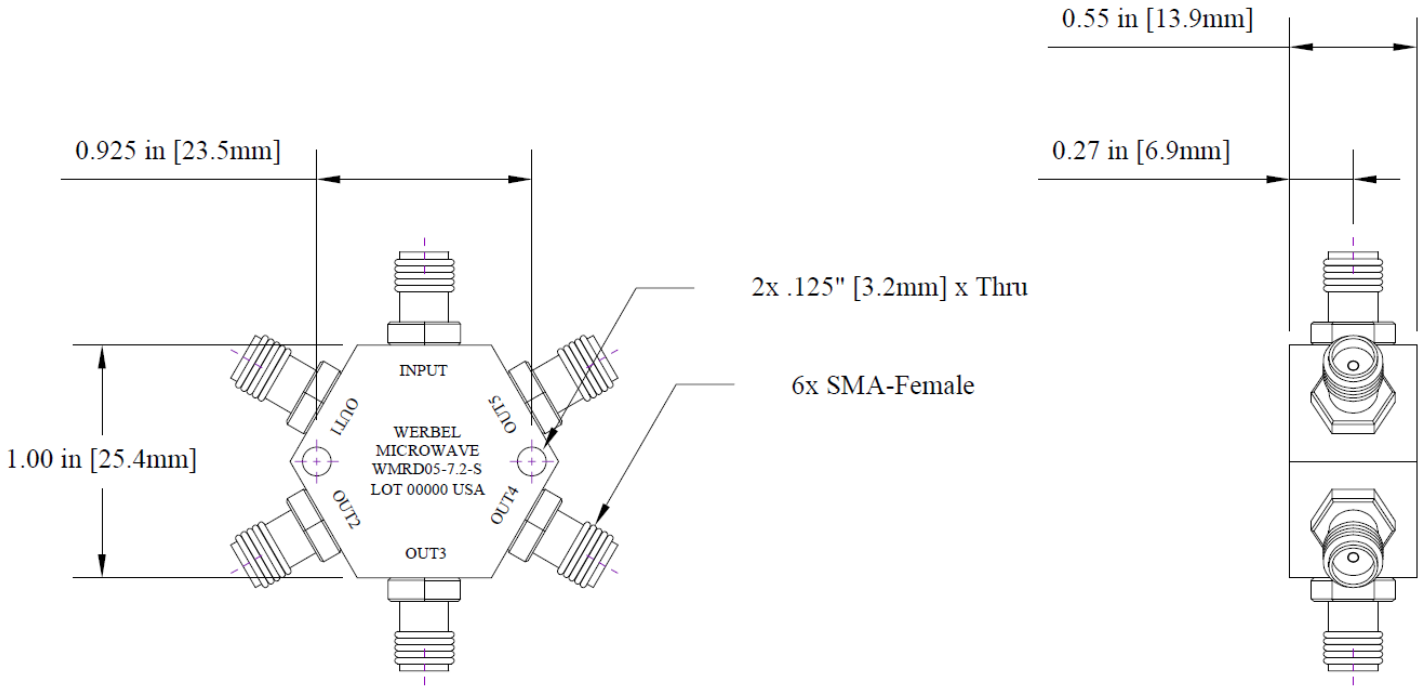
Outline Dimensions



Outline drawing: OL-R06-05
Dimensions are in inches, [mm] shown for convenience.
Tolerances on 2-pl decimals: ±.03. 3-pl decimals: ± .015.