

## Resistive Divider, DC-7.2GHz, 3-way, SMA-Female

## WMRD03-7.2-S

### Description

WMRD03-7.2-S is a resistive splitter that covers up to 7.2GHz with ultra-wide bandwidth. This design is useful when there are many low power signals within a wide spectrum. By design, it has a star topology network. 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 1-3)	9.5	14	-	dB
Insertion Loss (Total Measured Loss)	-	9.5	10.7	dB
Isolation	-	9.5	-	dB
Input Power (CW) <sup>1</sup> up to +30°C; derate linearly to +25dBm at +85°C.	-	-	+30	dBm

### Mechanical

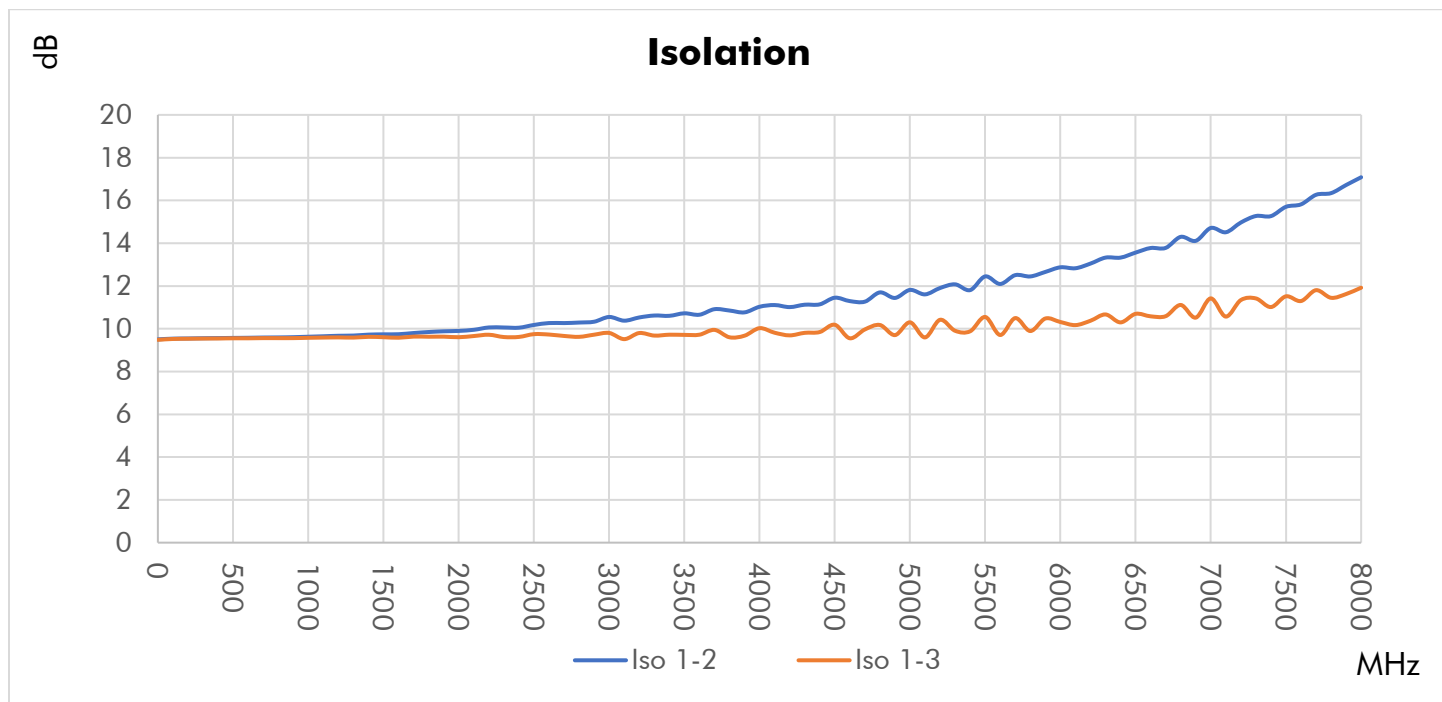
Connector Interface	SMA-Female
Operating Temperature <sup>2</sup>	-40 to +85 °C
Storage Temperature	-55 to +100 °C
Weight Estimate	23.0 g (0.81 oz)
Humidity	10-90% non-condensing
Environment	Indoors Use Only
CAGE Code	78YZ0

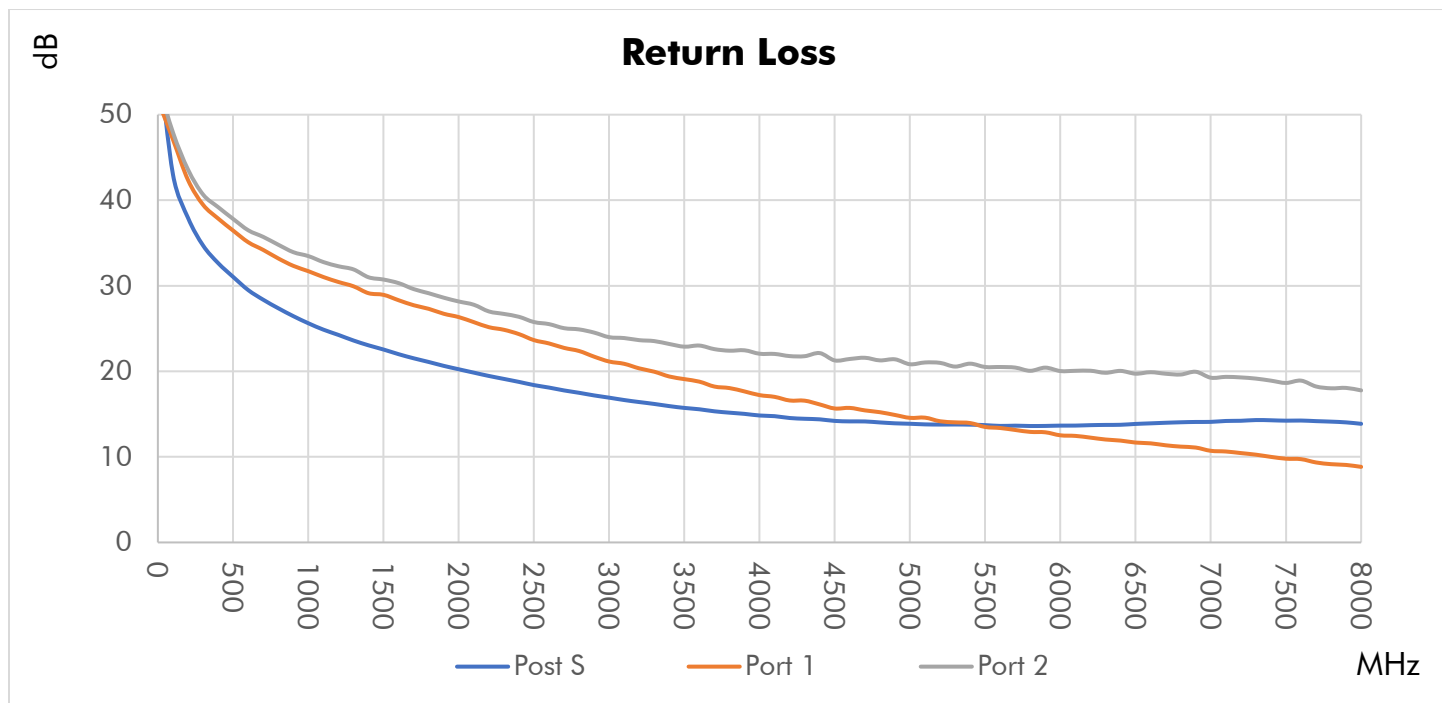
1. All output ports should be terminated in a 50-ohm load with 1.2:1 max VSWR.
2. Electrical specifications at +25 °C only.
3. To the best of our knowledge at the time of publication.

### Materials

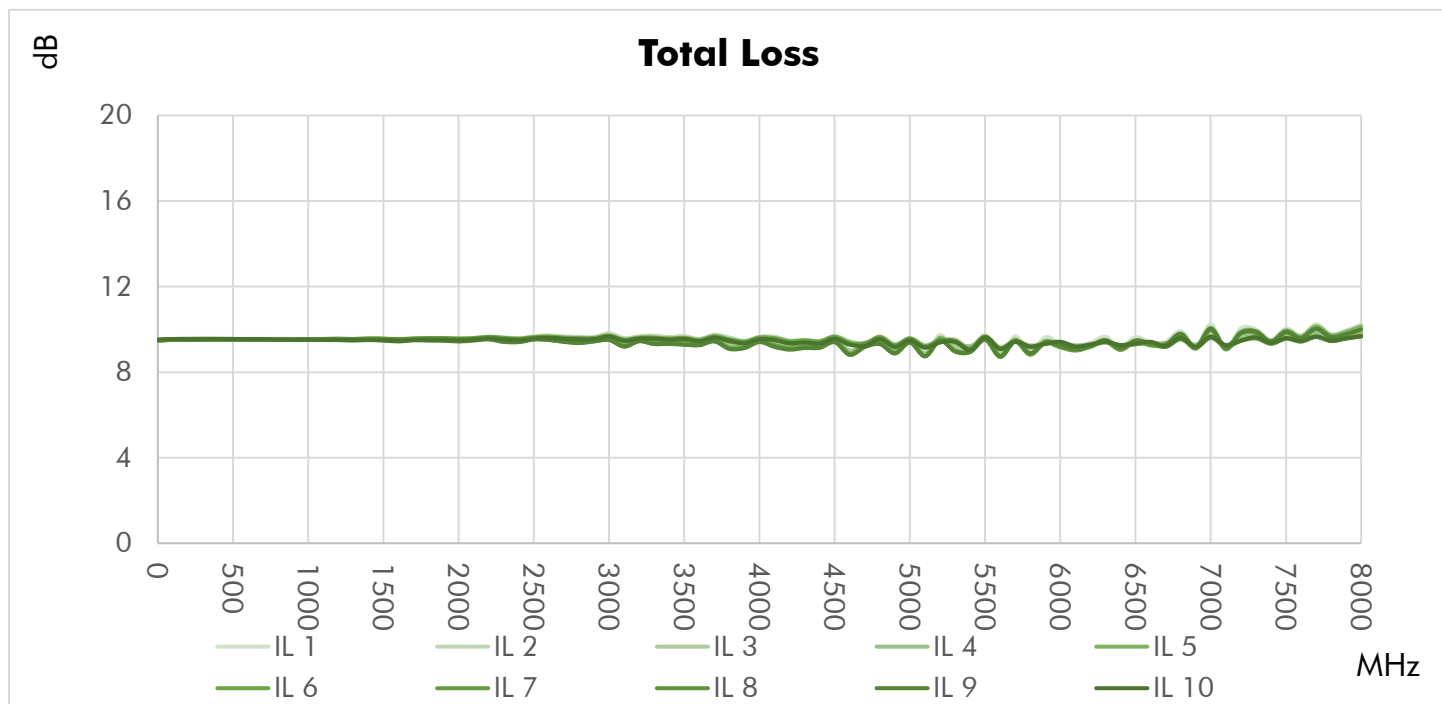
RoHS Compliant <sup>3</sup>	Yes
REACH Compliant <sup>3</sup>	Yes
Enclosure	Aluminum
Connectors	Brass, Gold Plated
Contacts	Be Cu, Gold Plated
Insulators	PTFE
Finish	Green Paint

## Typical Performance at +25 °C

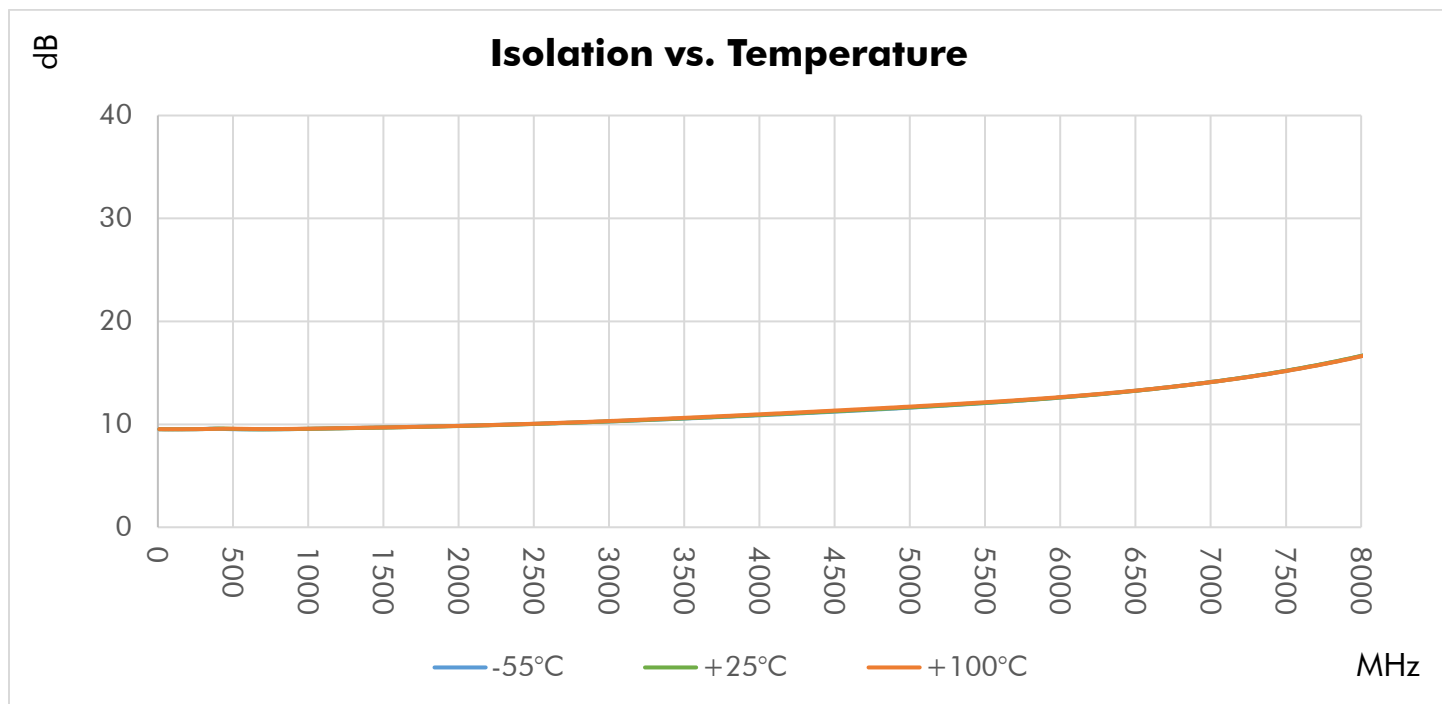
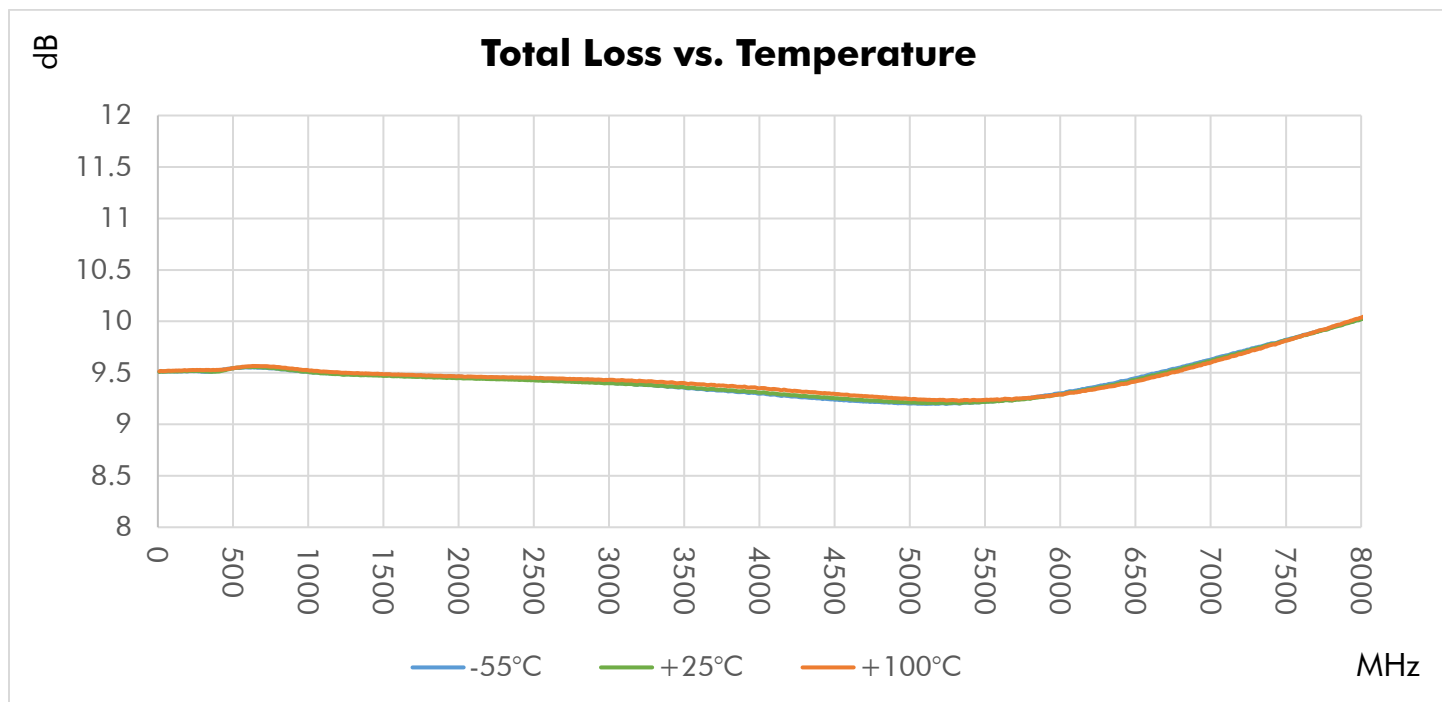


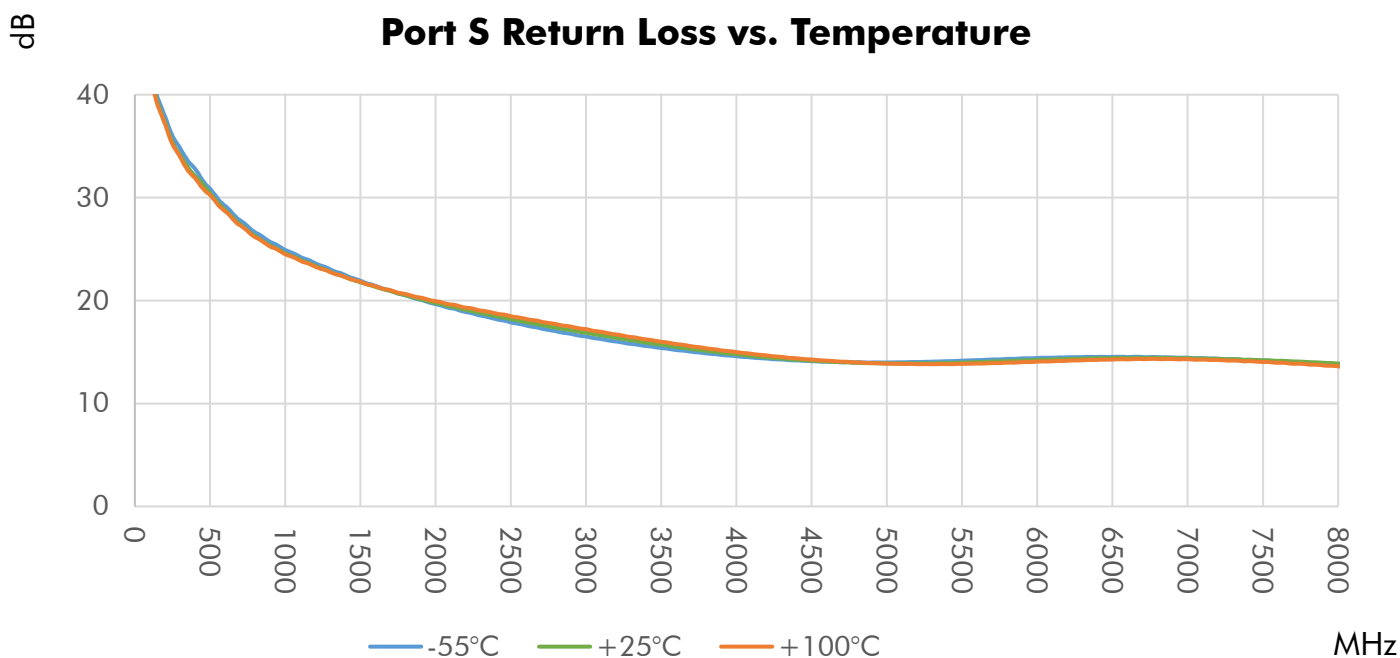
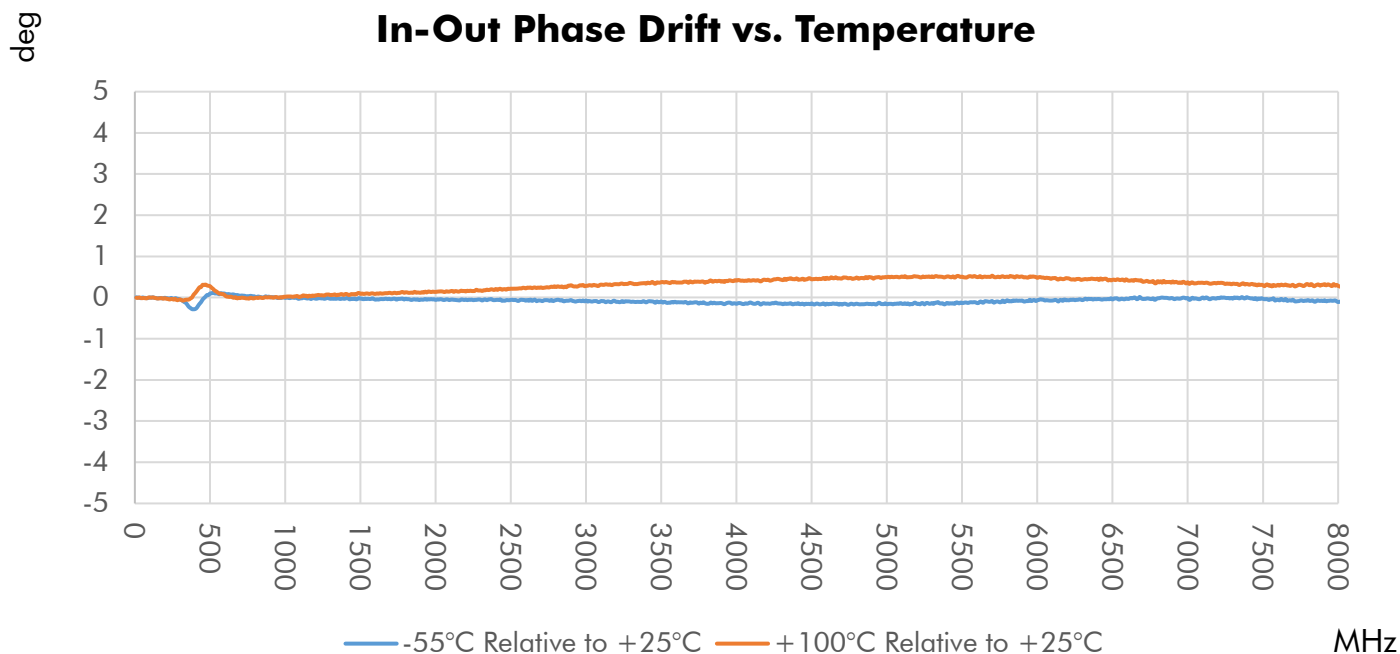


## Repeatability in Production



## Typical Performance Over Temperature

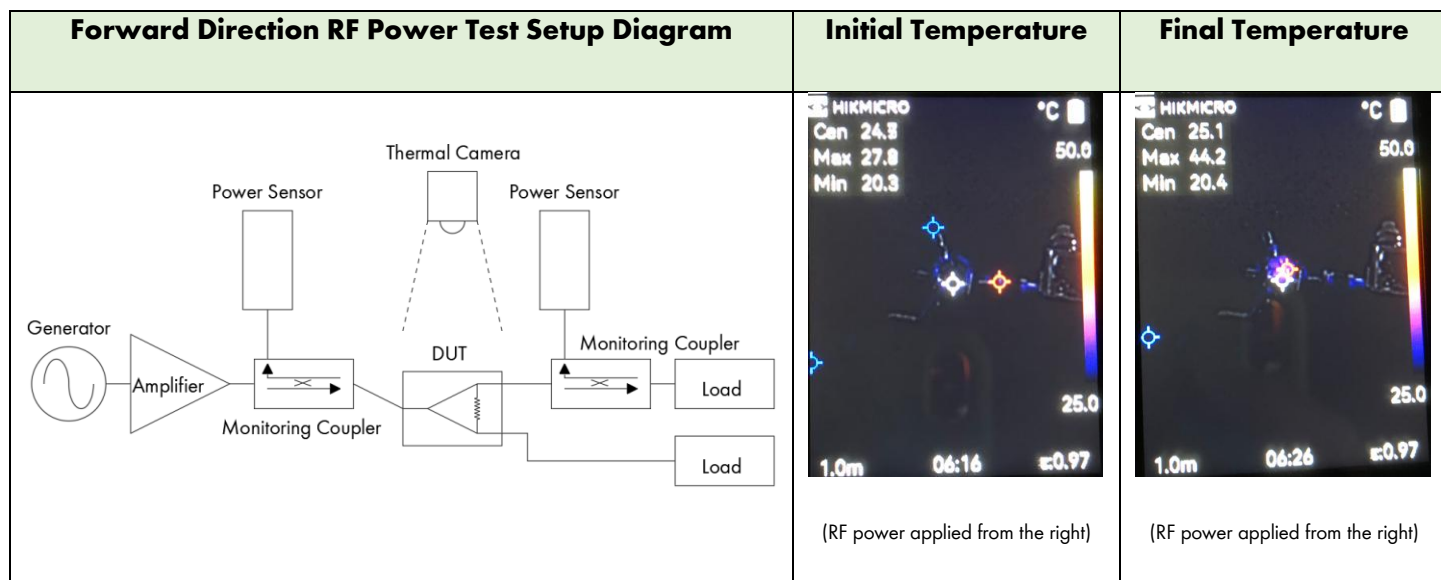




## Reliability Testing

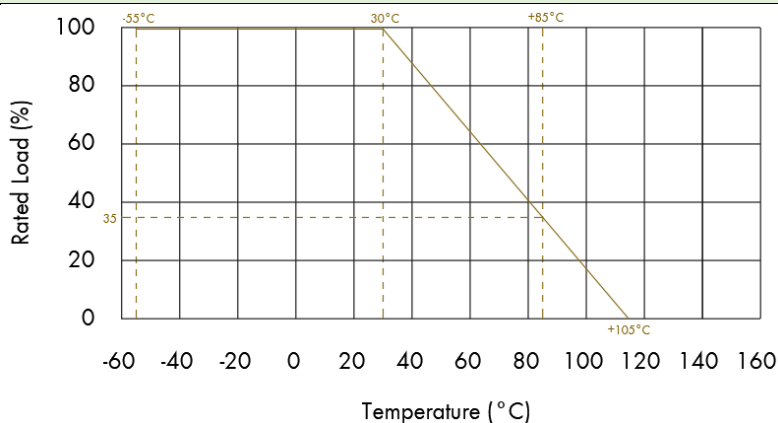
RF power test was performed to determine the input power required to produce a nominal temperature rise of 20°C at the hottest point. The test was performed at room temperature without forced air. A heatsink was not used unless it came standard with the product.

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.

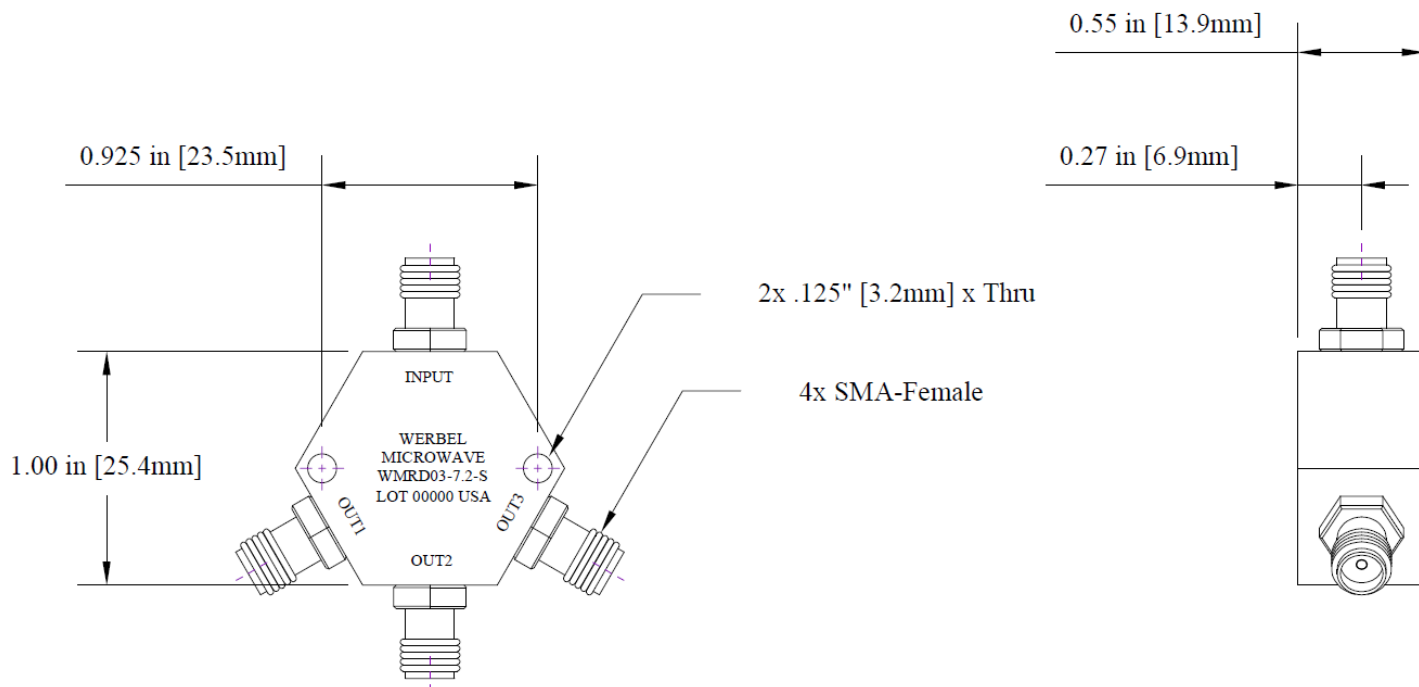
## Derating Curve



## Typical Performance Data

Frequency (MHz)	Return Loss (dB)			Total Loss (dB)		Isolation (dB)	
	Port S	Port 1	Port 2	S-1	S-3	1-2	1-3
1	57.51	51.67	53.71	9.52	9.54	9.50	9.48
100	42.96	47.07	47.89	9.55	9.58	9.54	9.52
200	37.92	42.34	43.56	9.56	9.58	9.55	9.53
300	34.70	39.46	40.66	9.56	9.59	9.56	9.54
400	32.65	37.86	39.19	9.56	9.58	9.56	9.55
500	31.03	36.45	37.81	9.55	9.58	9.57	9.55
600	29.50	35.09	36.49	9.54	9.57	9.58	9.55
700	28.36	34.19	35.71	9.54	9.56	9.59	9.56
800	27.37	33.19	34.80	9.52	9.55	9.60	9.56
900	26.45	32.33	33.93	9.51	9.54	9.61	9.56
1000	25.62	31.70	33.47	9.51	9.55	9.63	9.58
1500	22.55	28.94	30.73	9.47	9.53	9.74	9.60
2000	20.24	26.34	28.16	9.45	9.52	9.90	9.61
2500	18.39	23.65	25.76	9.56	9.65	10.18	9.75
3000	16.92	21.15	23.99	9.49	9.66	10.55	9.80
3500	15.72	19.09	22.88	9.30	9.45	10.72	9.71
4000	14.84	17.22	22.06	9.53	9.62	11.03	10.03
4500	14.20	15.66	21.27	9.52	9.62	11.45	10.19
5000	13.87	14.56	20.83	9.56	9.60	11.82	10.30
5500	13.71	13.50	20.51	9.73	9.73	12.45	10.55
6000	13.66	12.52	20.03	9.33	9.32	12.87	10.32
6500	13.85	11.68	19.73	9.64	9.47	13.56	10.70
7000	14.09	10.71	19.26	10.22	9.96	14.71	11.42
7500	14.23	9.79	18.65	10.03	9.81	15.70	11.52
8000	13.87	8.83	17.77	10.23	9.99	17.08	11.92

## Outline Dimensions



Outline drawing: OL-R06-03

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

Tolerances on 2-pl decimals:  $\pm 0.03$ . 3-pl decimals:  $\pm 0.015$ .

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