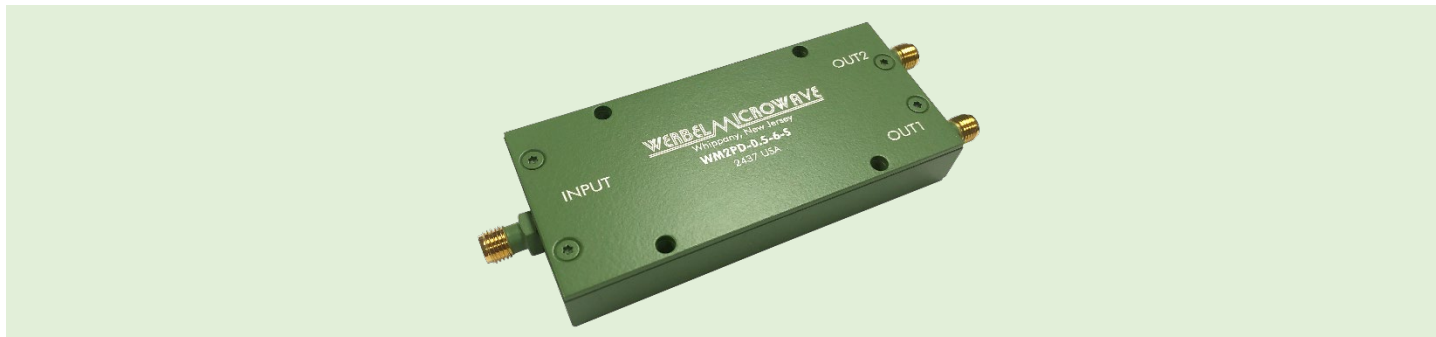


Power Divider, 2-way, 0.5-6GHz, SMA Female

WM2PD-0.5-6-S



This 2-way broadband power divider/combiner is designed for reliable operation from 0.5 to 6 GHz, supporting a wide range of RF signal distribution, combining, and monitoring applications. The design provides consistent insertion loss, isolation, and port match performance across the band, making it well suited for general-purpose use in test and measurement setups, wireless systems, and broadband RF signal chains.

The product is engineered using a production-optimized architecture that prioritizes repeatability and manufacturability. Electrical performance is based on measured results across multiple production units rather than single optimized prototype units, ensuring consistent behavior

from unit to unit without the need for post-assembly tuning. This approach enables high production yield, stable supply, and predictable integration into larger RF systems.

Manufactured in the United States using robust materials and standard SMA coaxial interfaces, this power divider/combiner is ideal for applications requiring dependable broadband performance without the complexity or cost associated with tightly tuned, metrology-grade components. Typical use cases include RF test benches, WiFi and ISM band systems, and other broadband communication and signal distribution applications.

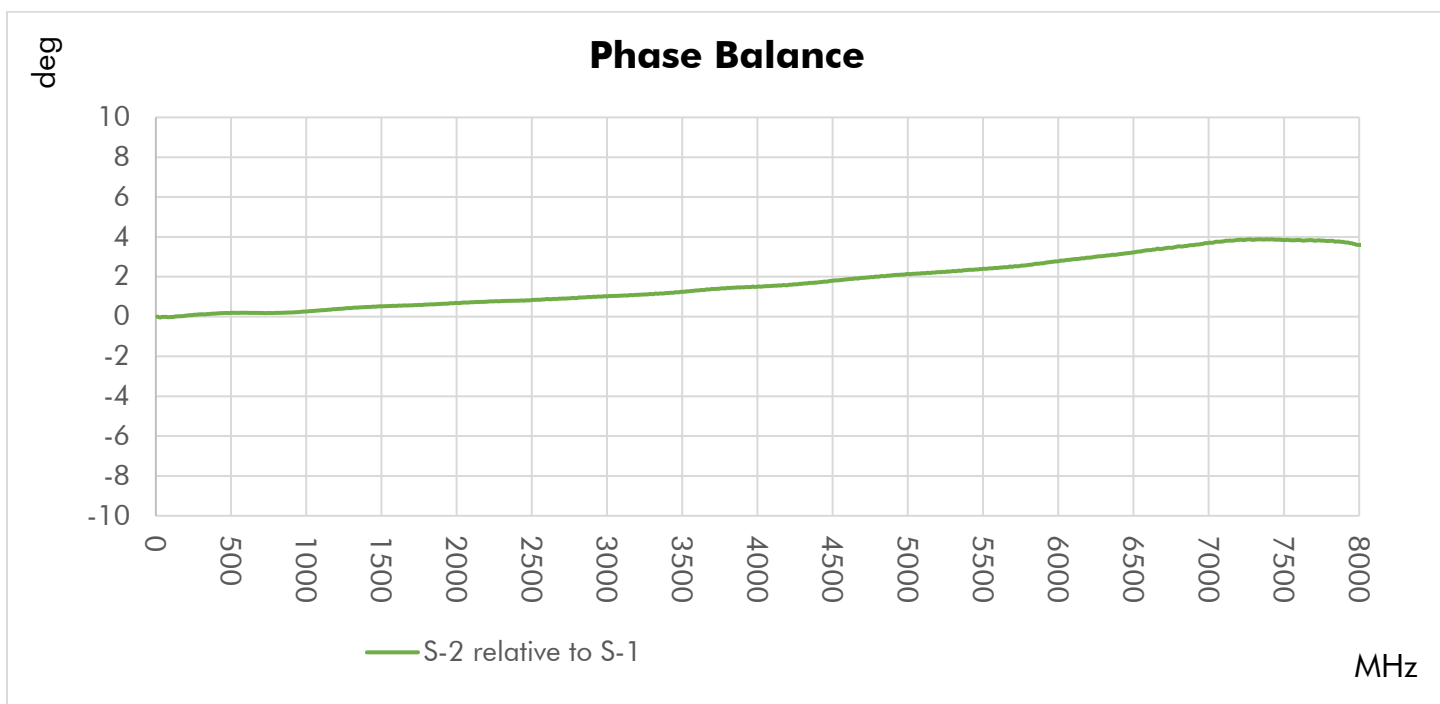
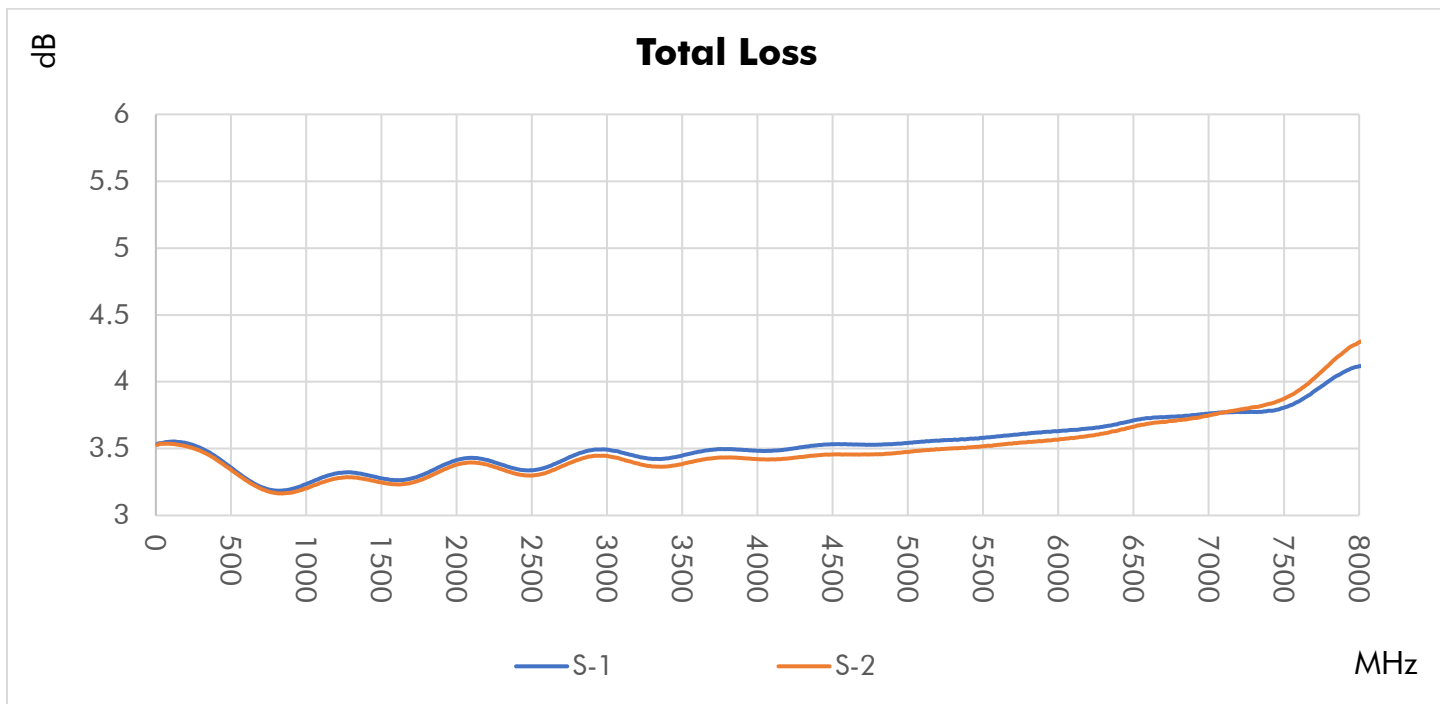
Parameter	Low Band	Mid Band	High Band	Unit
Frequency Range	0.5-0.7	0.7-3	3-6	GHz
Impedance	50			Ω
Return Loss (Port S)	12	14	14	dB, min.
Return Loss (Port 1-2)	17	17	17	dB, min.
Insertion Loss above 3.01 dB	0.5	0.8	1.3	dB, max.
Isolation	12	18	18	dB, min.
Amplitude Unbalance ($\pm$) ¹	0.2	0.4	0.5	dB, max.
Phase Unbalance ($\pm$) ¹	2	4	6	Degree, max.
Input Power (CW) ²	50	50	30	W, max.
Combining Power (CW) ²	0.5			W/port, max.
DC Current	1.2			A/port, max.

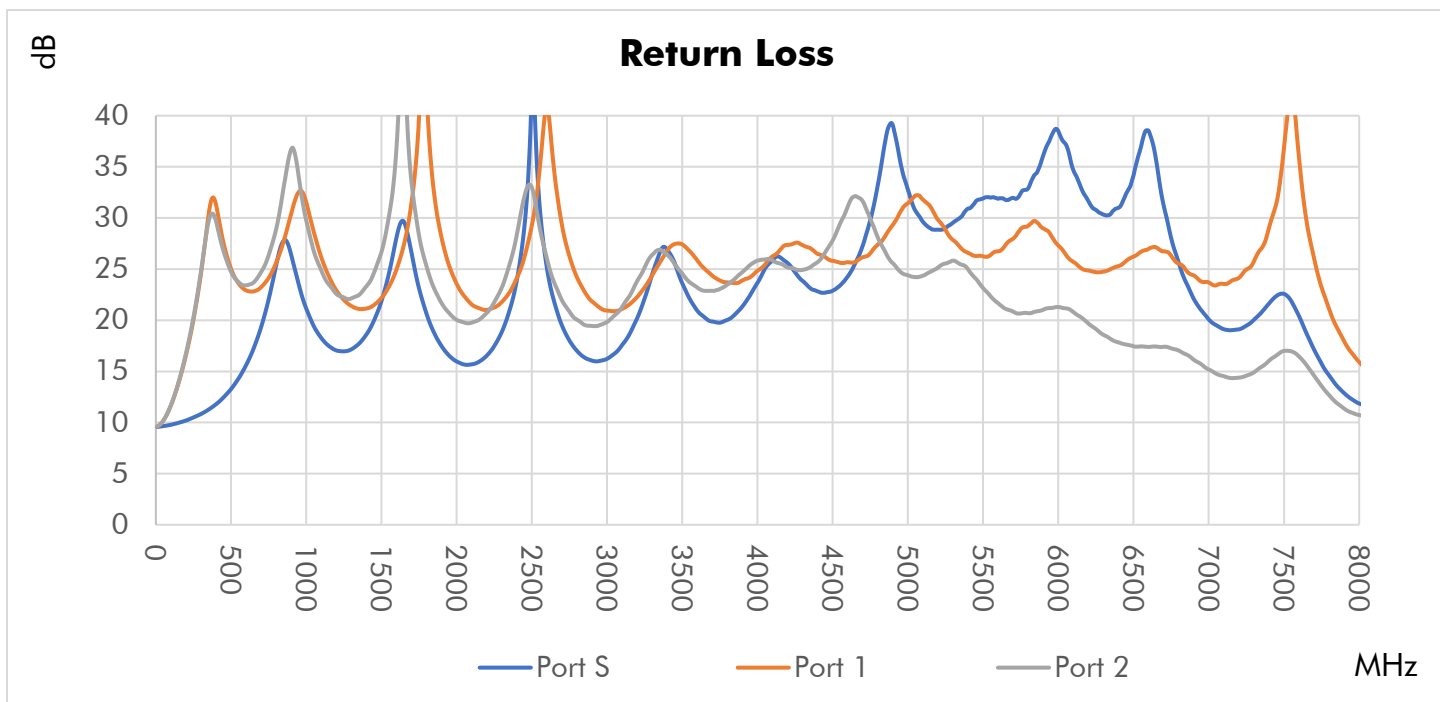
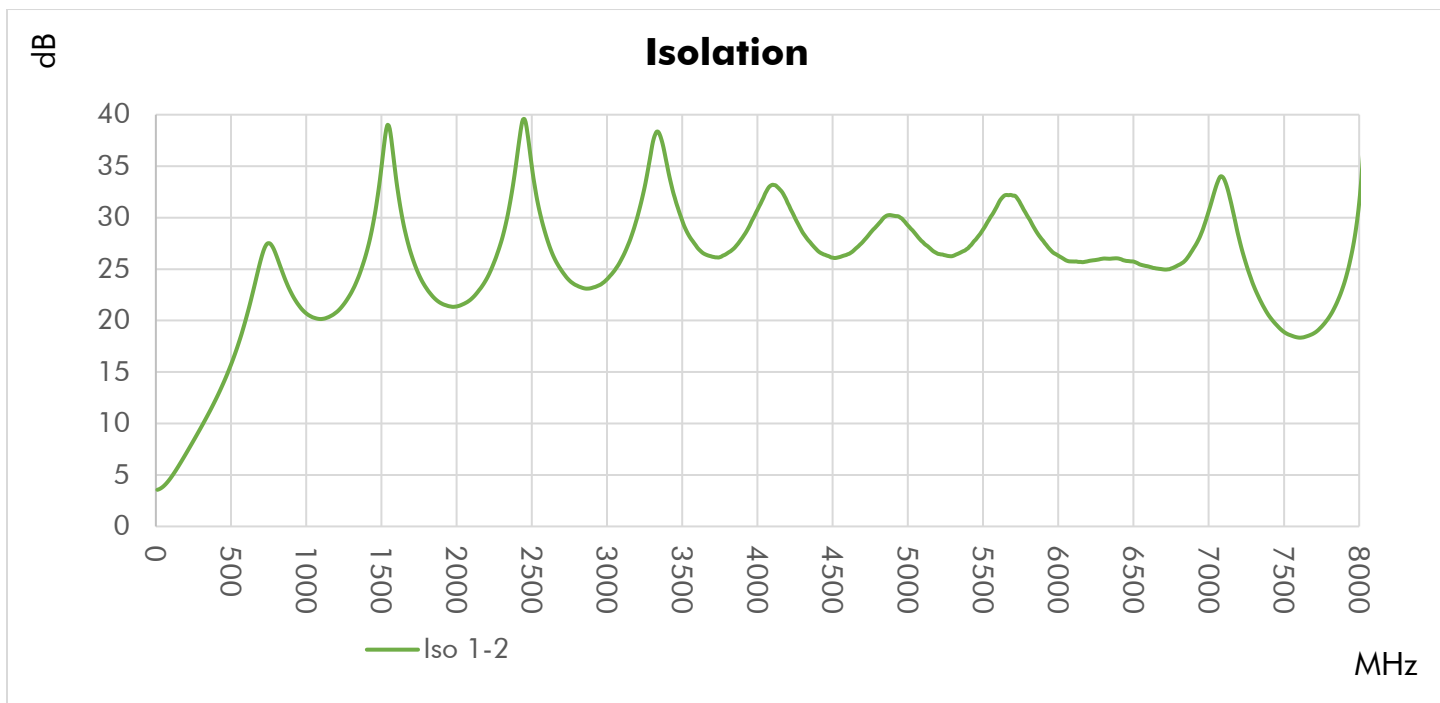
Mechanical and Environmental Specifications

Connector Interface	SMA Female	RoHS Status ⁴	RoHS3 Compliant
Operating Temperature ³	-55 to +85 °C	REACH Status ⁴	REACH Unaffected
Storage Temperature	-55 to +100 °C	Enclosure Material	Aluminum
Nominal Weight	85 g (3 oz)	Connectors Material	Brass, Gold Plated
Operating Humidity	10-90% (non-condensing)	Contacts Material	Beryllium Copper, Gold Plated
Operating Environment	Indoor Use Only	Insulators Material	Virgin PTFE
HTSUS Code	8548.00.0000	Finish	Green Paint
ECCN	EAR99	Country of Origin	United States of America

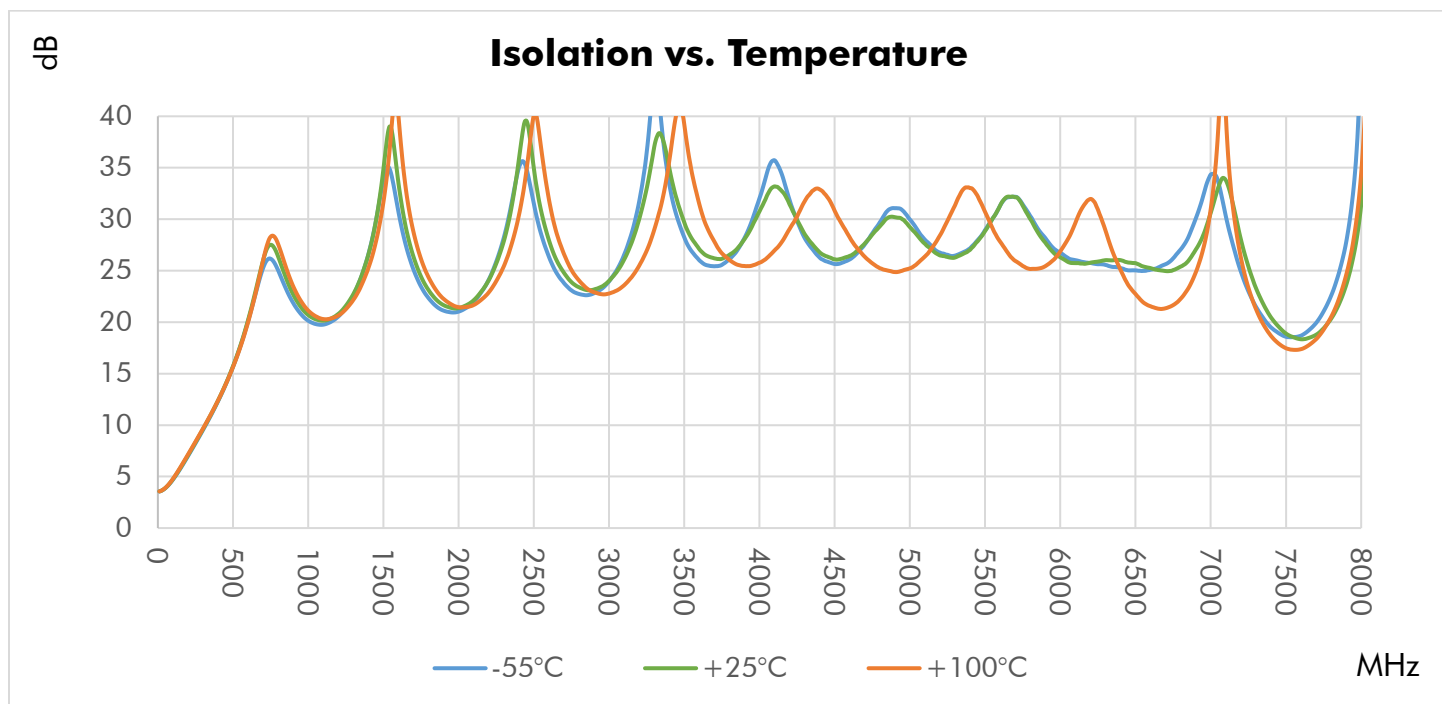
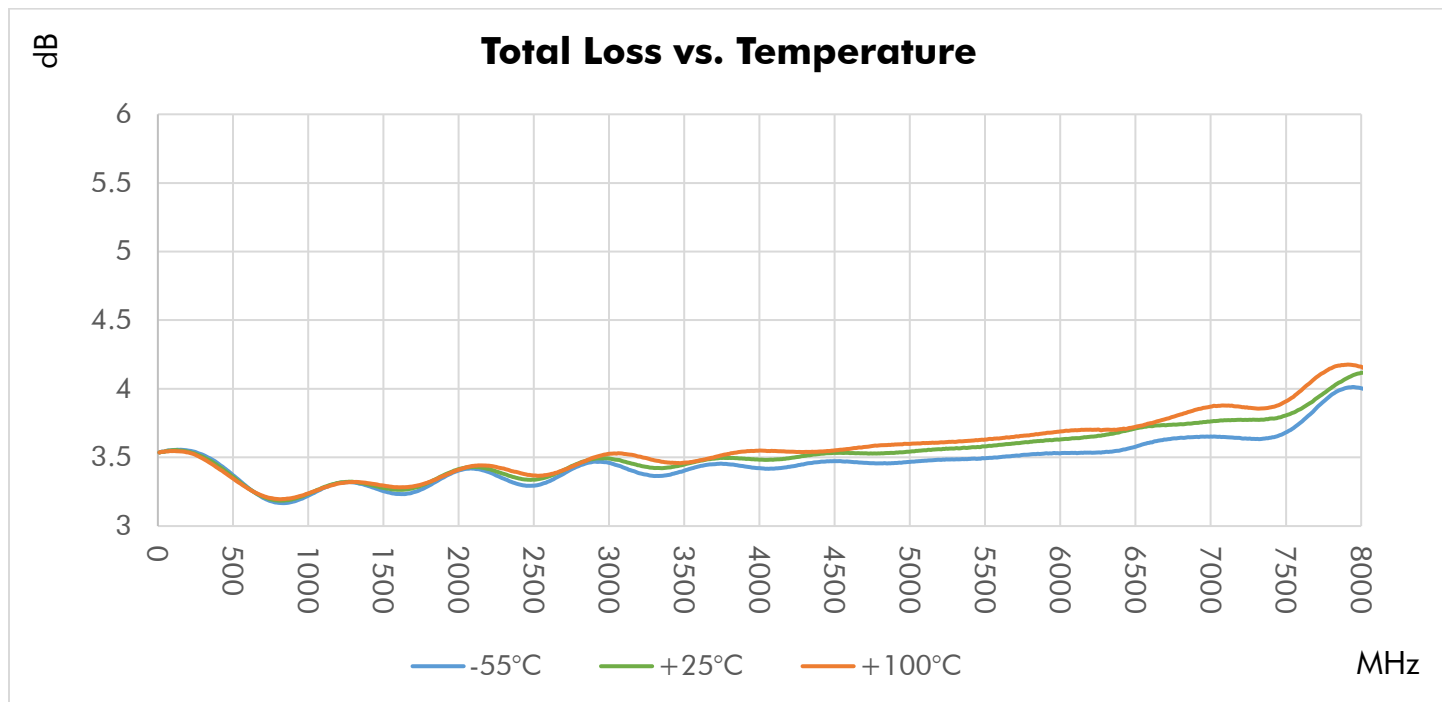
1. With reference to average.
2. All output ports should be terminated in a 50-ohm load with 1.2:1 max VSWR.
3. Electrical specifications are tested at +25 °C.
4. To the best of our knowledge at the time of publication.

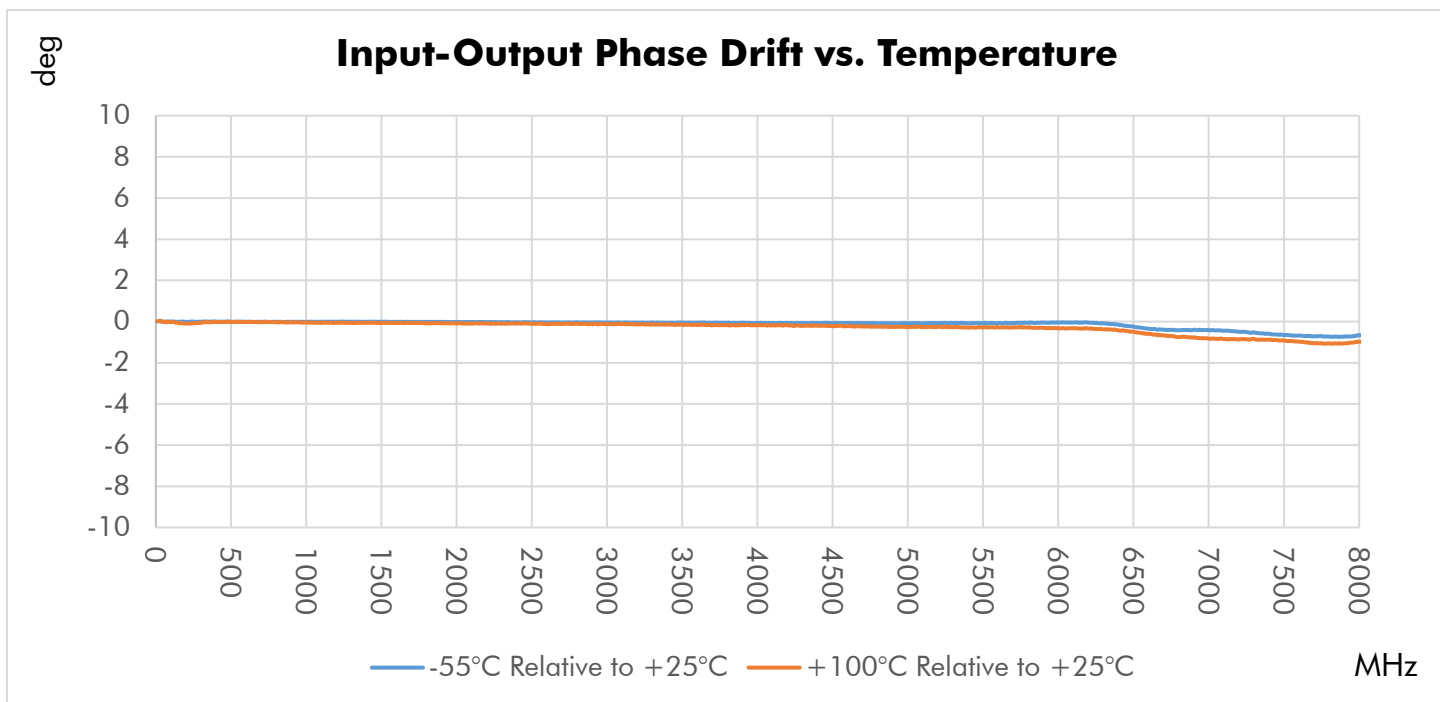
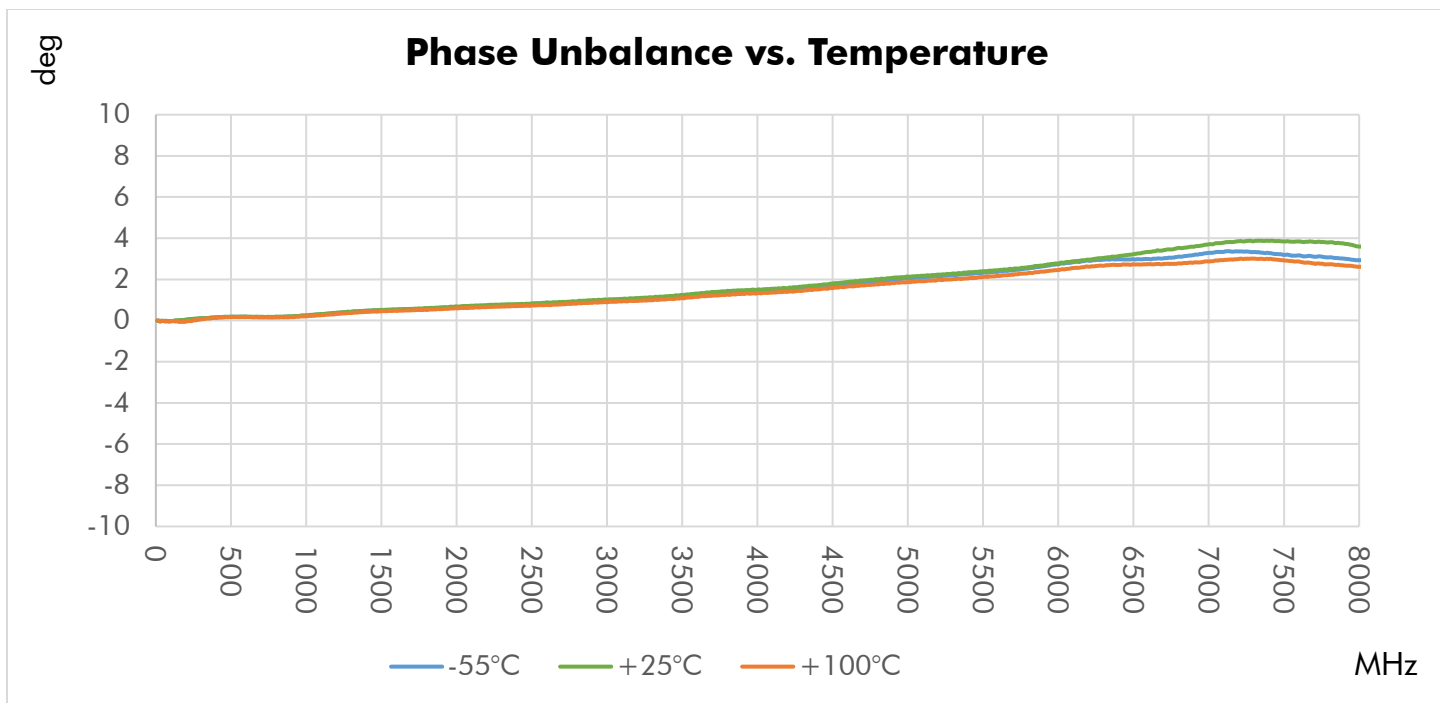
Typical Performance at +25 °C

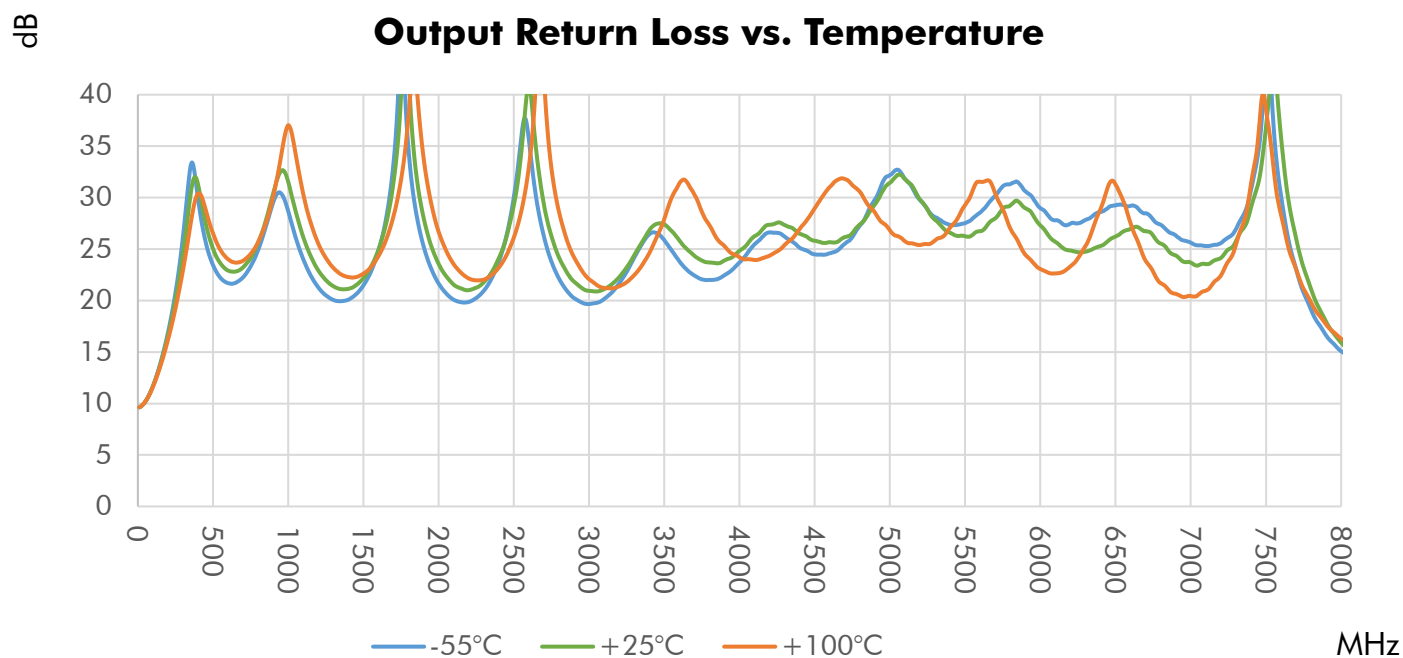
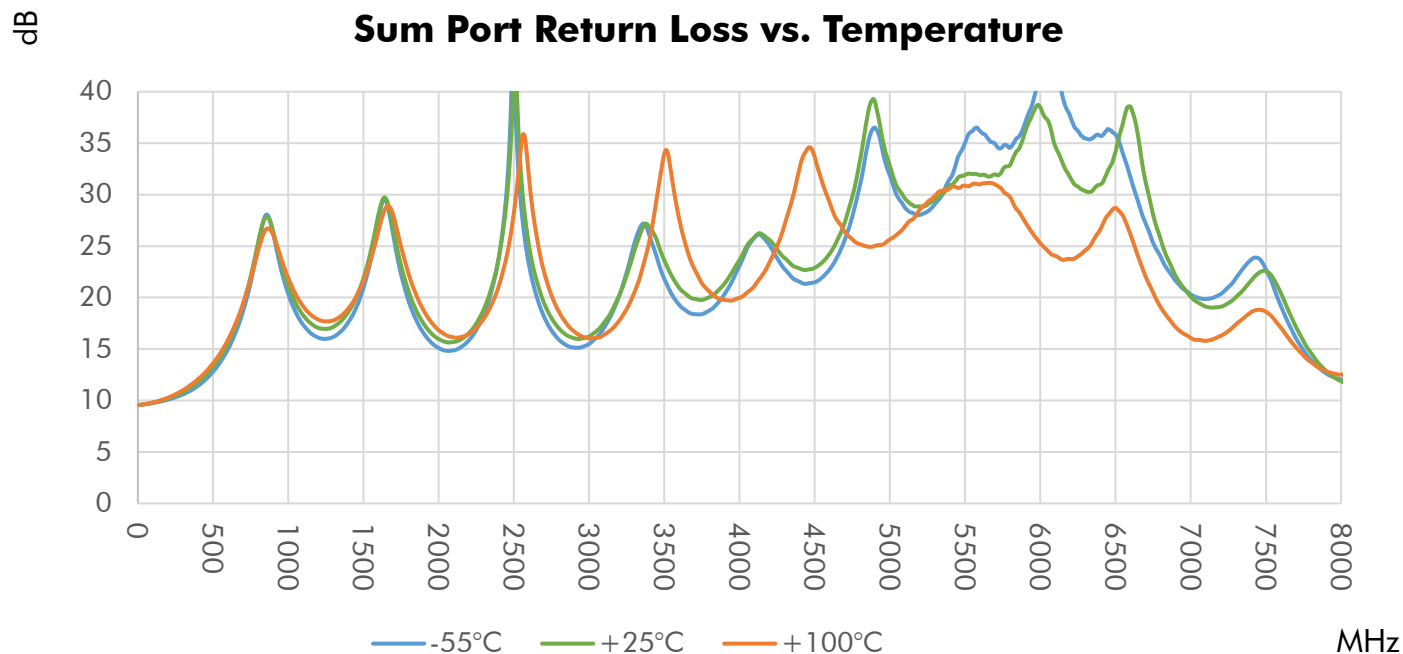




Typical Performance Over Temperature

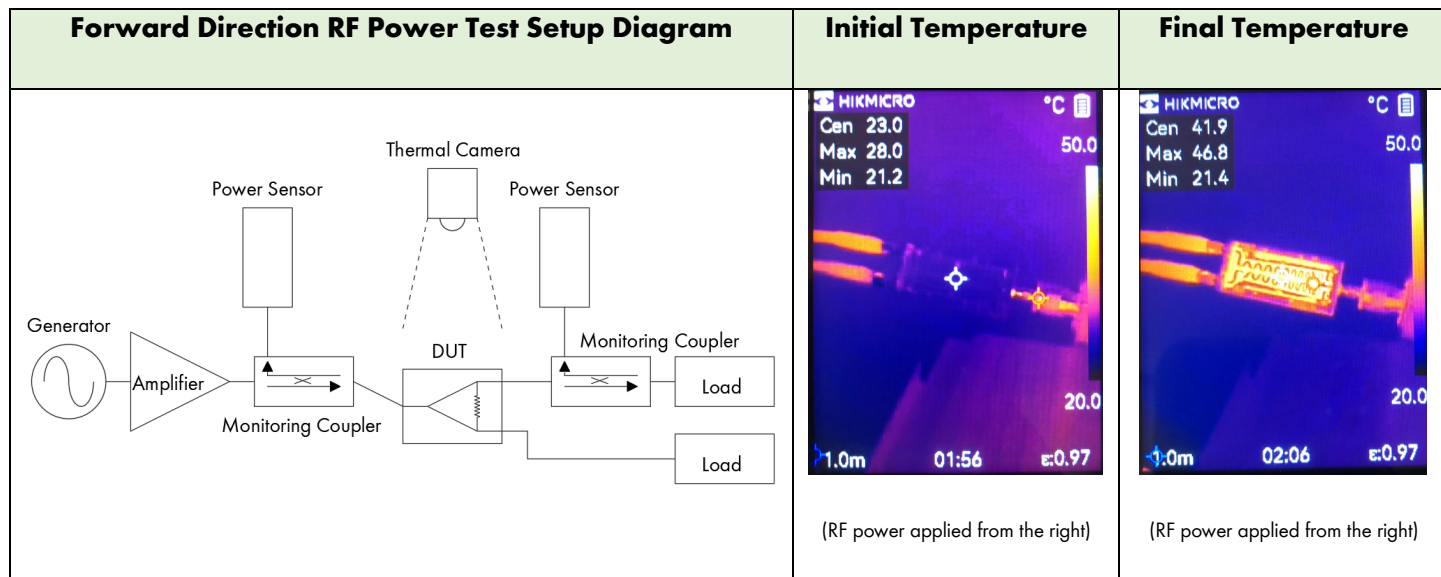




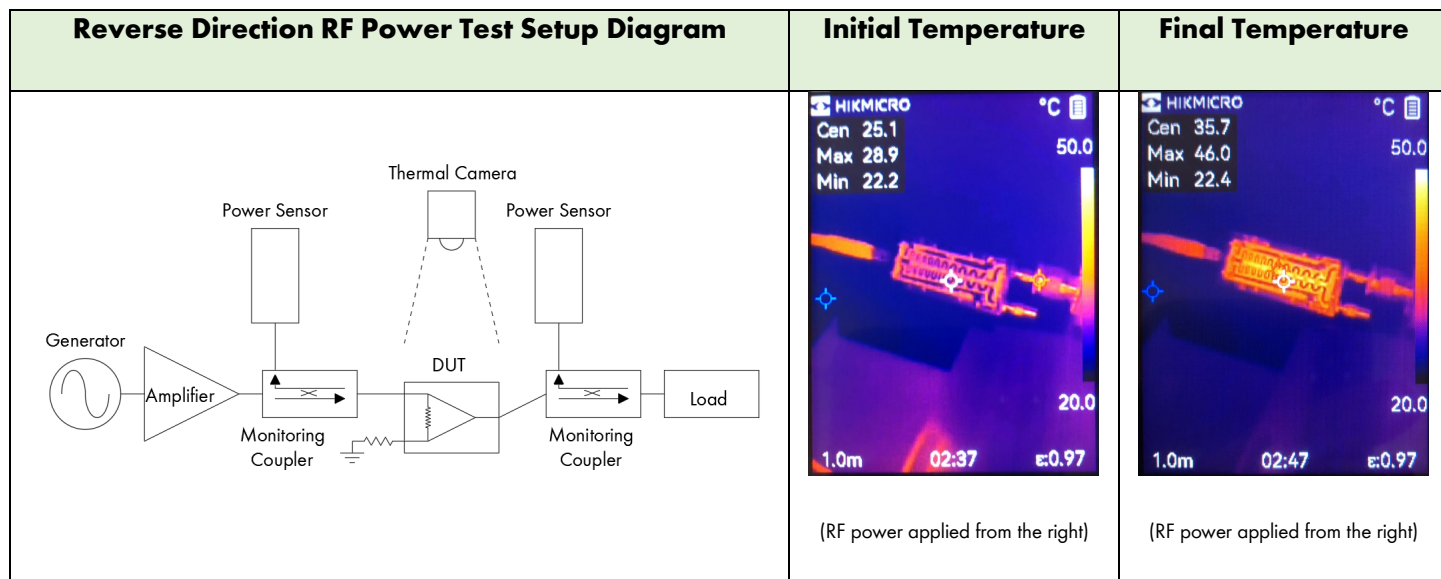


Reliability Testing

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.



- 100 watts CW at 500MHz was applied to the DUT input for a duration of 10 minutes.
- The DUT temperature increased from 23.0°C (initial, center marker) to 46.8°C (final, max marker), resulting in a 23.8°C rise.

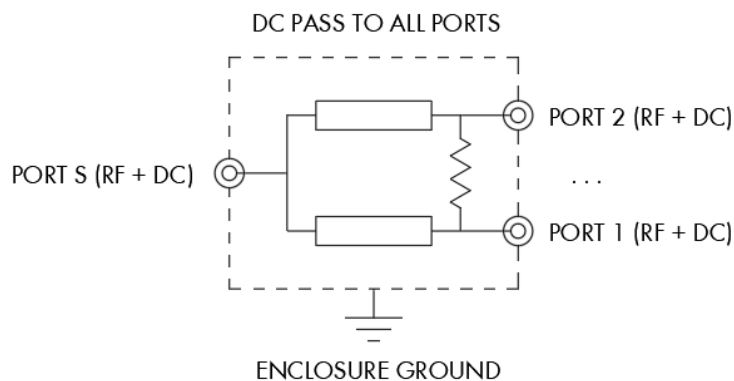


- 4 watts CW at 500MHz was applied to the DUT output for a duration of 10 minutes.
- The DUT temperature increased from 25.1°C (initial, center marker) to 46.0°C (final, max marker), resulting in a 20.9°C rise.

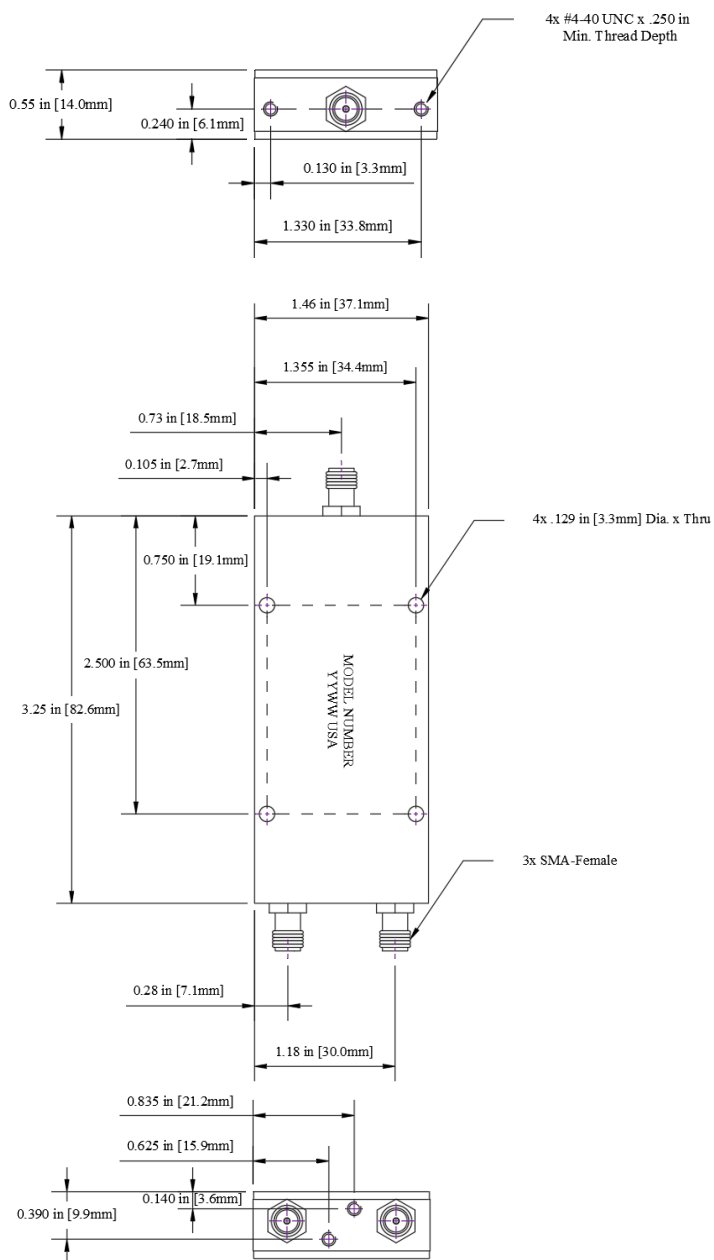
Typical Performance Data

Frequency (MHz)	Return Loss (dB)			Total Loss (dB)		Isolation (dB)
	Port S	Port 1	Port 2	S-1	S-2	
500	16.6	30.1	29.8	3.2	3.2	17.7
550	18.4	31.3	31.0	3.2	3.2	20.2
600	20.7	32.4	32.0	3.2	3.2	23.4
650	23.6	32.4	32.0	3.2	3.2	27.8
700	27.3	32.8	32.5	3.1	3.1	35.0
750	31.8	33.4	32.8	3.1	3.2	39.5
800	32.5	33.5	32.6	3.1	3.2	31.1
850	29.6	34.8	33.8	3.2	3.2	27.3
900	27.0	36.5	35.0	3.2	3.2	25.0
950	25.4	38.7	36.8	3.2	3.2	23.8
1000	24.3	43.2	39.6	3.2	3.2	23.1
1500	31.7	32.6	33.1	3.2	3.2	31.3
2000	23.1	34.6	34.2	3.3	3.3	26.1
2500	22.0	31.9	30.3	3.3	3.3	25.3
3000	33.2	37.3	47.7	3.3	3.3	33.9
3500	21.8	30.2	29.7	3.3	3.4	26.1
4000	25.9	38.4	39.8	3.4	3.4	27.1
4500	27.4	29.9	31.5	3.4	3.5	27.8
5000	23.8	30.3	45.6	3.4	3.5	26.7
5500	27.0	30.6	29.4	3.5	3.6	28.0
6000	22.4	28.9	24.6	3.5	3.7	22.8

Simplified Electrical Schematic



Outline Dimensions



Outline drawing: OL-2066

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

Tolerances on 2-pl decimals: ± 0.03 . 3-pl decimals: ± 0.015 .

The information contained in this document is accurate to the best of our knowledge and representative of the product described herein at the date of publication. It may be necessary to make modifications to the product and/or documentation of the product. Werbel Microwave LLC reserves the right to make such changes as required without notice. Unless otherwise stated, all specifications and dimensions are nominal. Werbel Microwave LLC does not make any representation or warranty regarding the suitability of the product described herein for any particular purpose or application, and Werbel Microwave LLC does not assume any liability arising out of the use of any part of documentation. This document gives only a description of the product(s) and shall not form part of any contract. Please contact a Werbel Microwave LLC Applications Engineer for the most current specification drawing.

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.