

## Directional Coupler, 0.5-20GHz, 30dB, SMA Female

## WMC-0.5-20-30dB-S

### Description

Werbel Microwave WMC-0.5-20-30dB-S is a wideband directional coupler that covers 500MHz to 20GHz at a flat 30dB coupling across the band. Useful for amplifier feedback and gain control applications. Made in USA and is RoHS compliant.

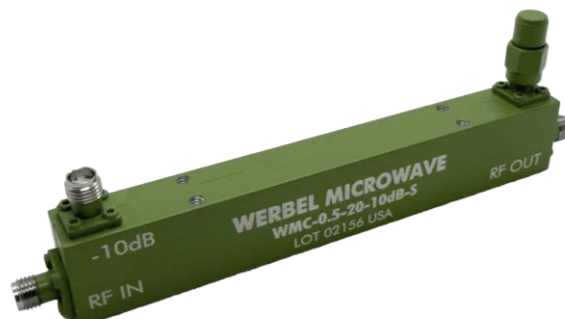


Photo is representative.

Specifications	Min.	Typ.	Max.	Units
Frequency	500	-	20000	MHz
Impedance	-	50	-	Ohm
Coupling	-	30 ± 1.5	-	dB
Frequency Sensitivity (Flatness)	-	±0.6	±1.8	dB
Mainline Loss <sup>1</sup>	-	1.1	1.7	dB
Directivity	11	13	-	dB
Isolation	-	43	-	dB
Return Loss (In and Out)	13	15	-	dB
Return Loss (Coupling)	12	15	-	dB
Input Power (CW) <sup>2</sup>	-	-	20	Watts

### Mechanical

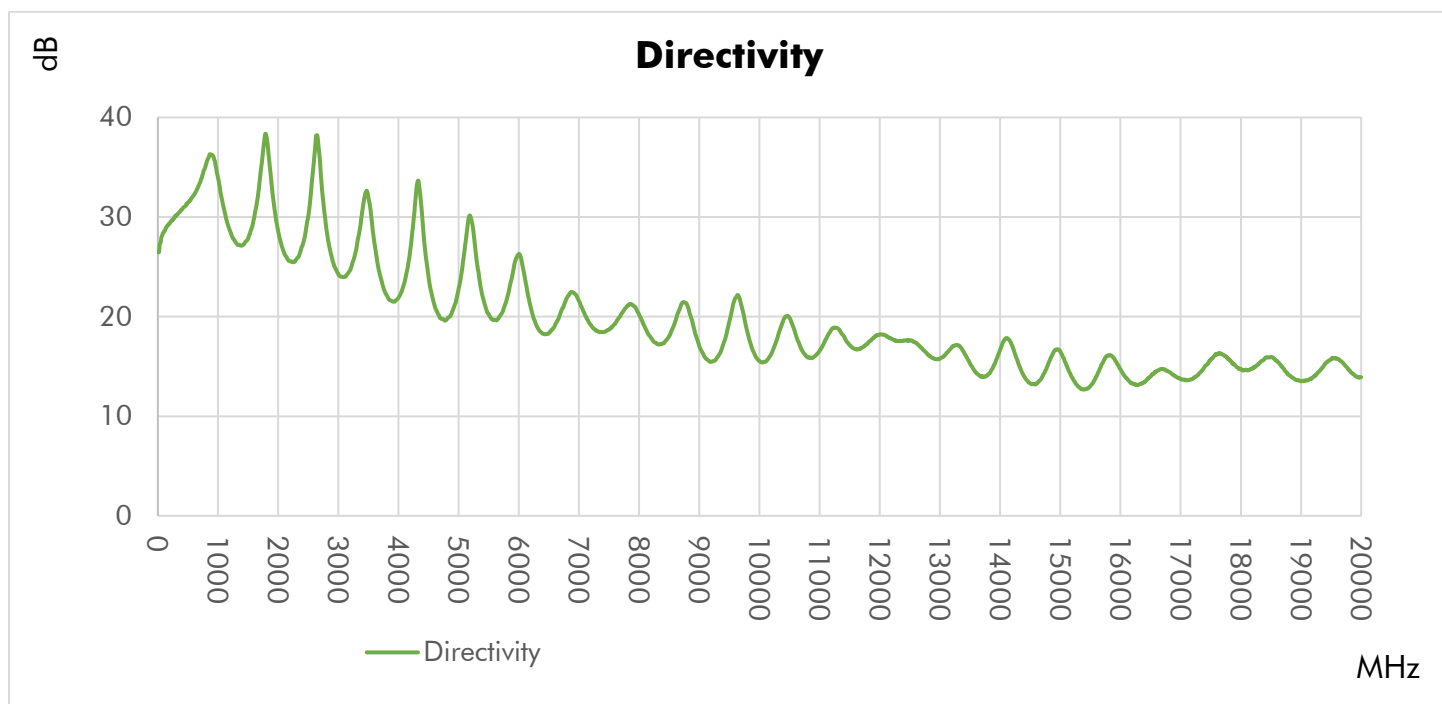
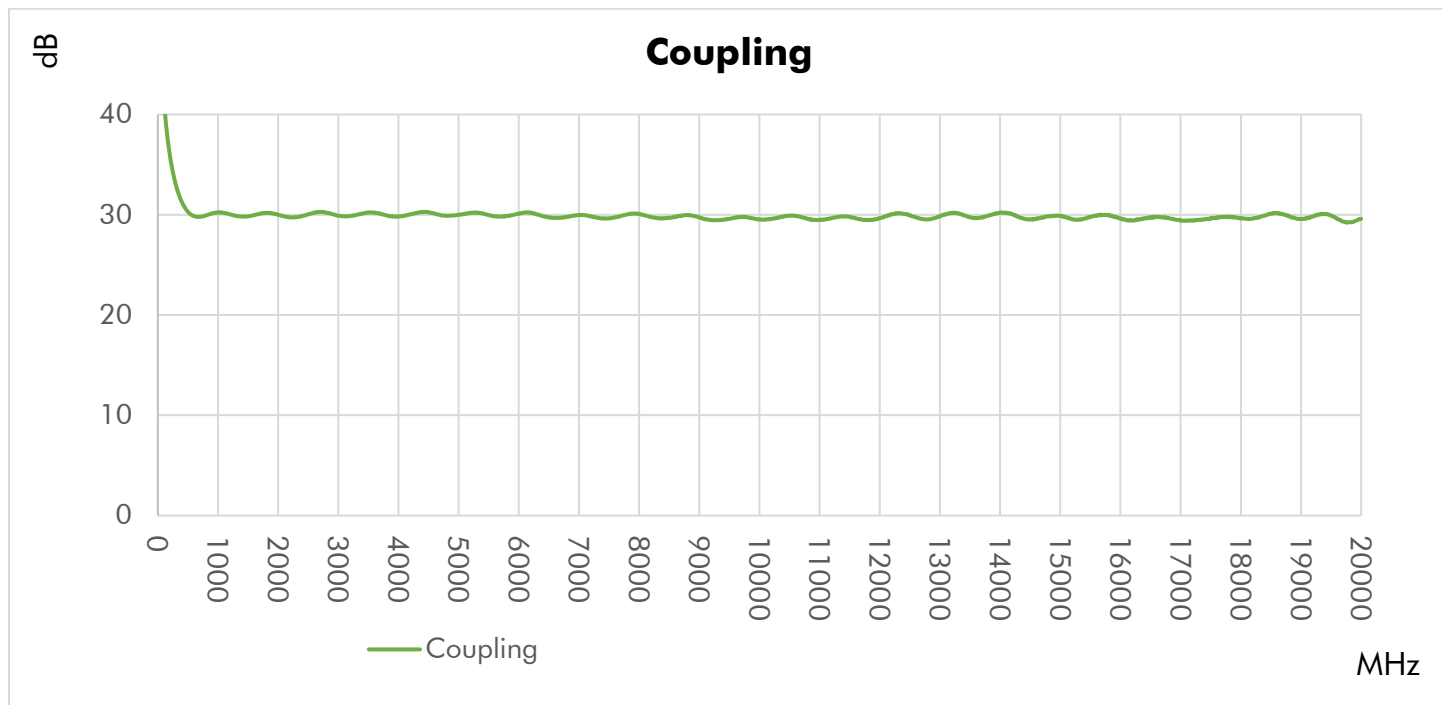
Connector Interface	SMA-Female
Operating Temperature <sup>3</sup>	-55 to +85 °C
Storage Temperature	-55 to +100 °C
Weight	3.5 oz (86 g)
Humidity	10-90% non-condensing
Environment	Indoors Use Only

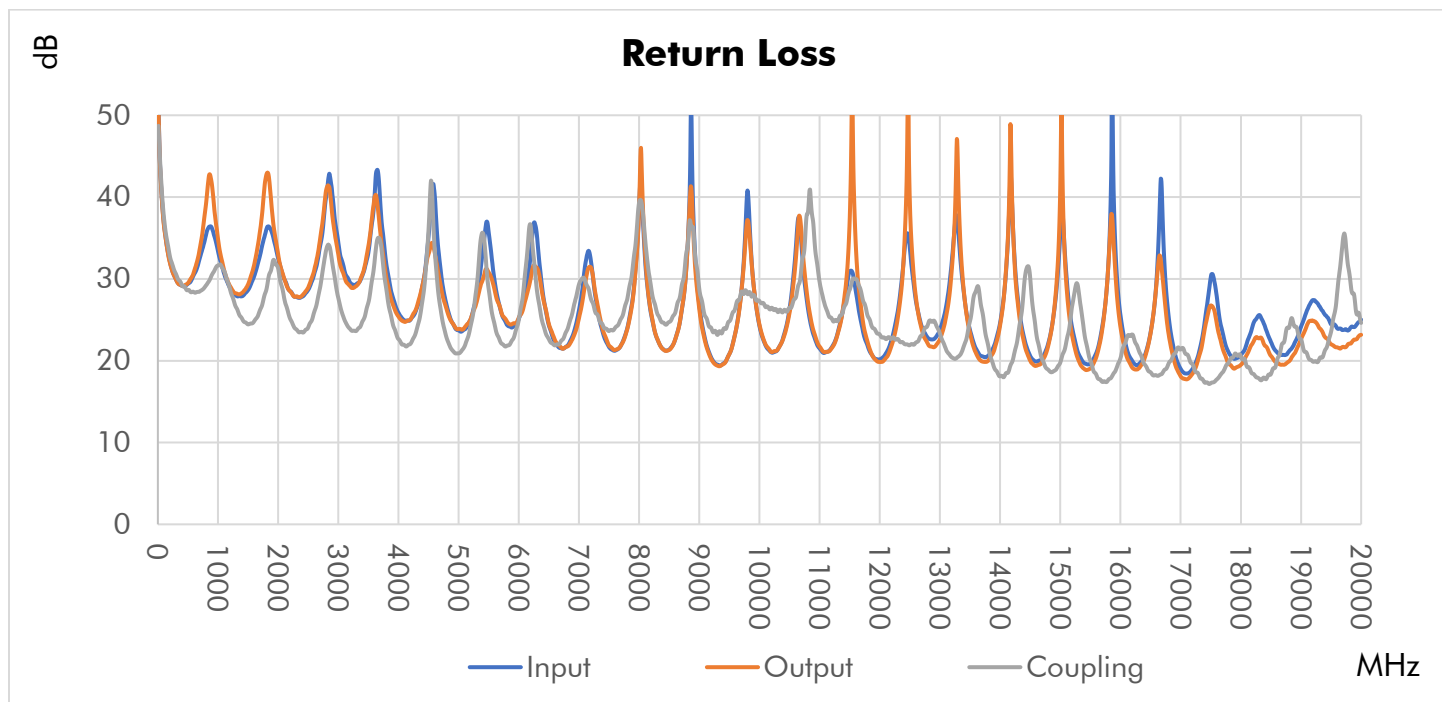
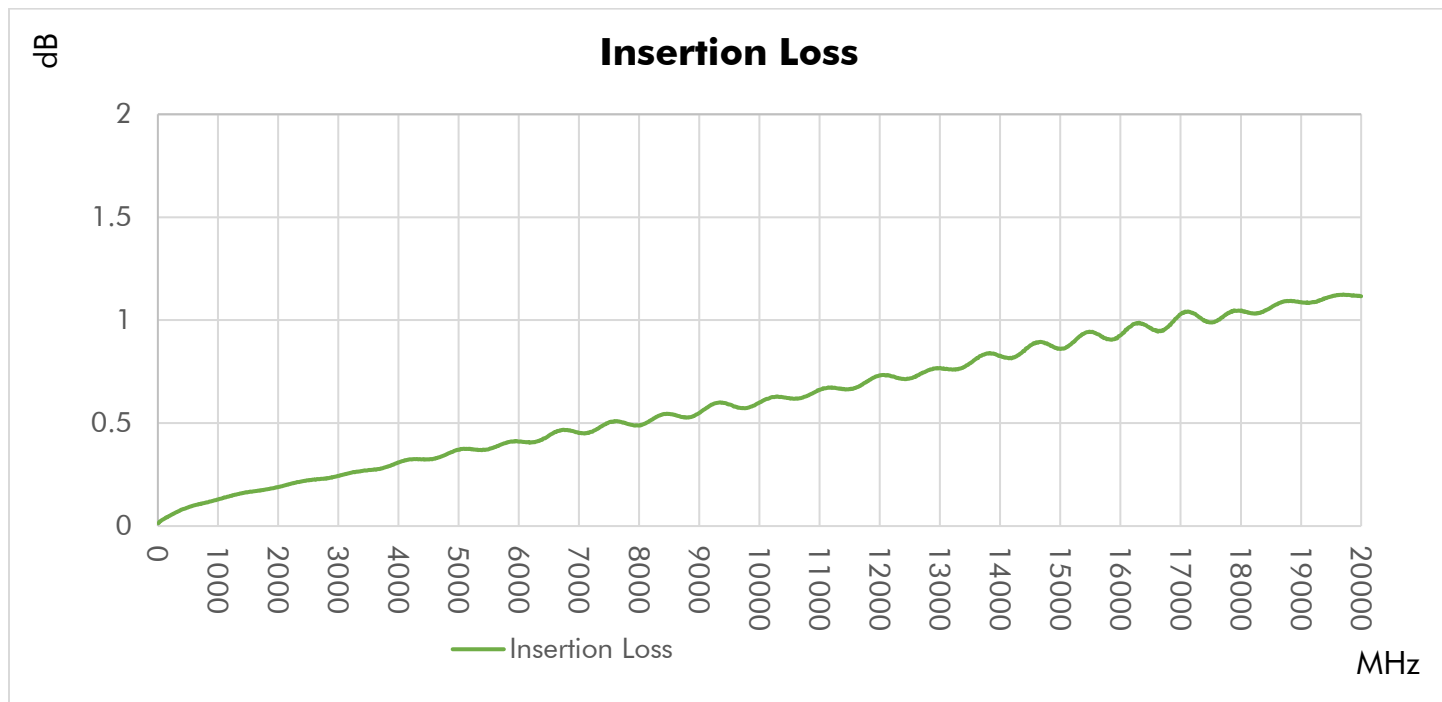
1. Mainline loss includes coupling loss.
2. All output ports should be terminated in a 50-ohm load with 1.2:1 max VSWR.
3. Electrical specifications at +25 °C only.
4. To the best of our knowledge at the time of publication.

### Materials

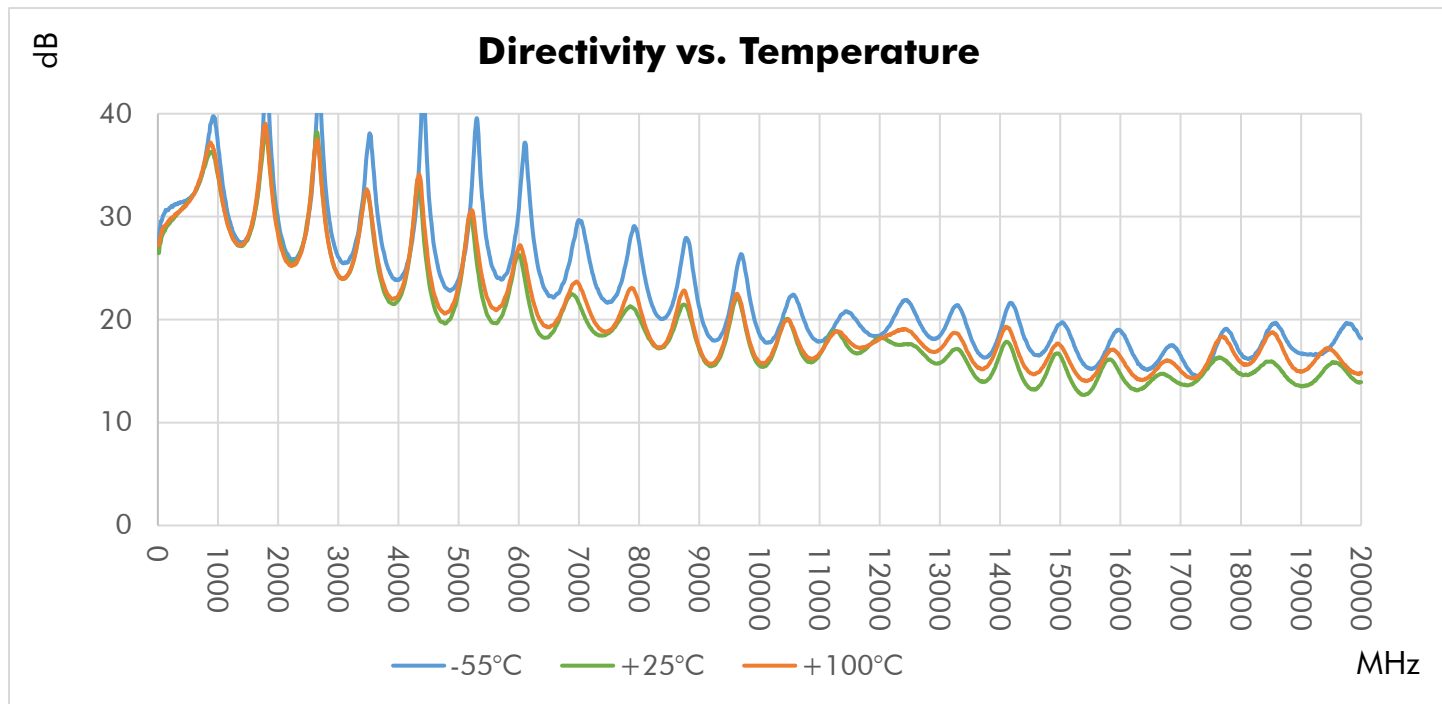
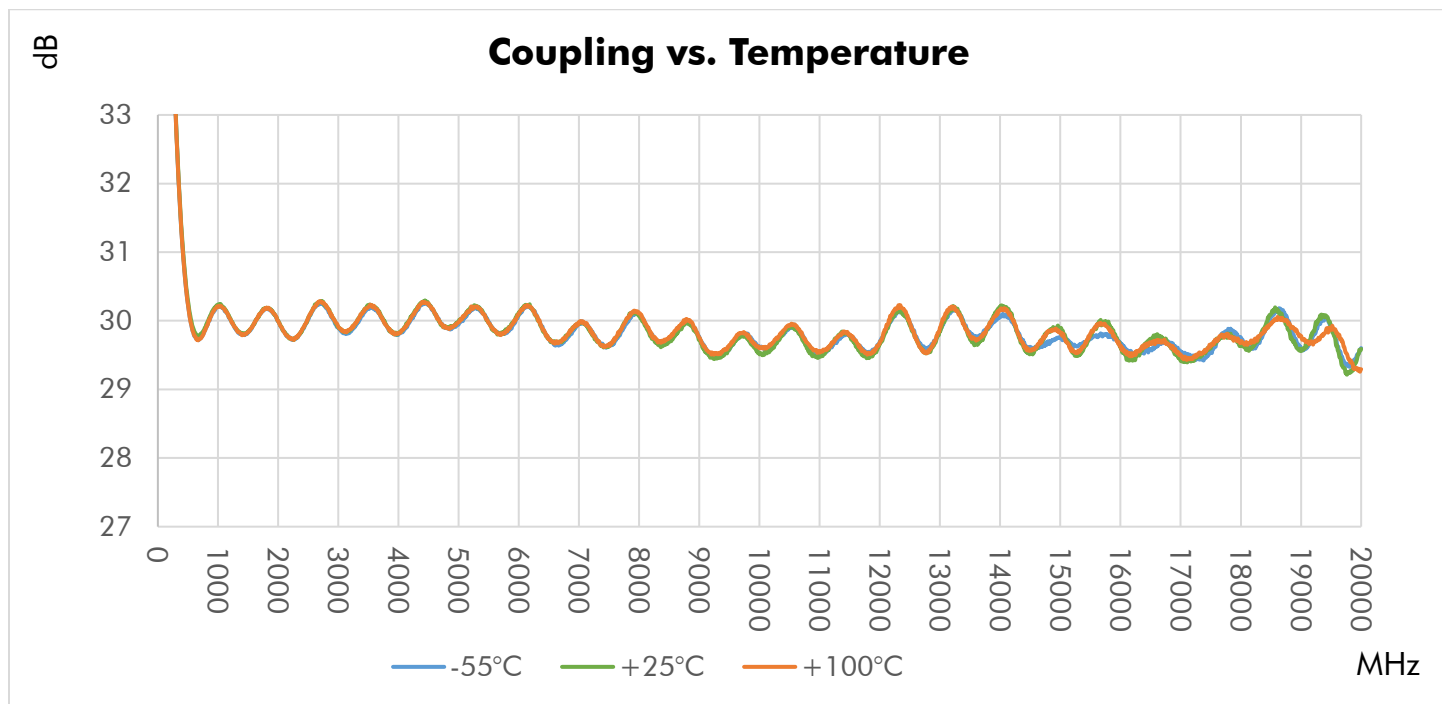
RoHS and REACH Compliant <sup>4</sup>	
Enclosure	Aluminum
Connectors	Stainless Steel
Contacts	Be Cu, Gold Plated
Insulators	PTFE
Finish	Green Paint

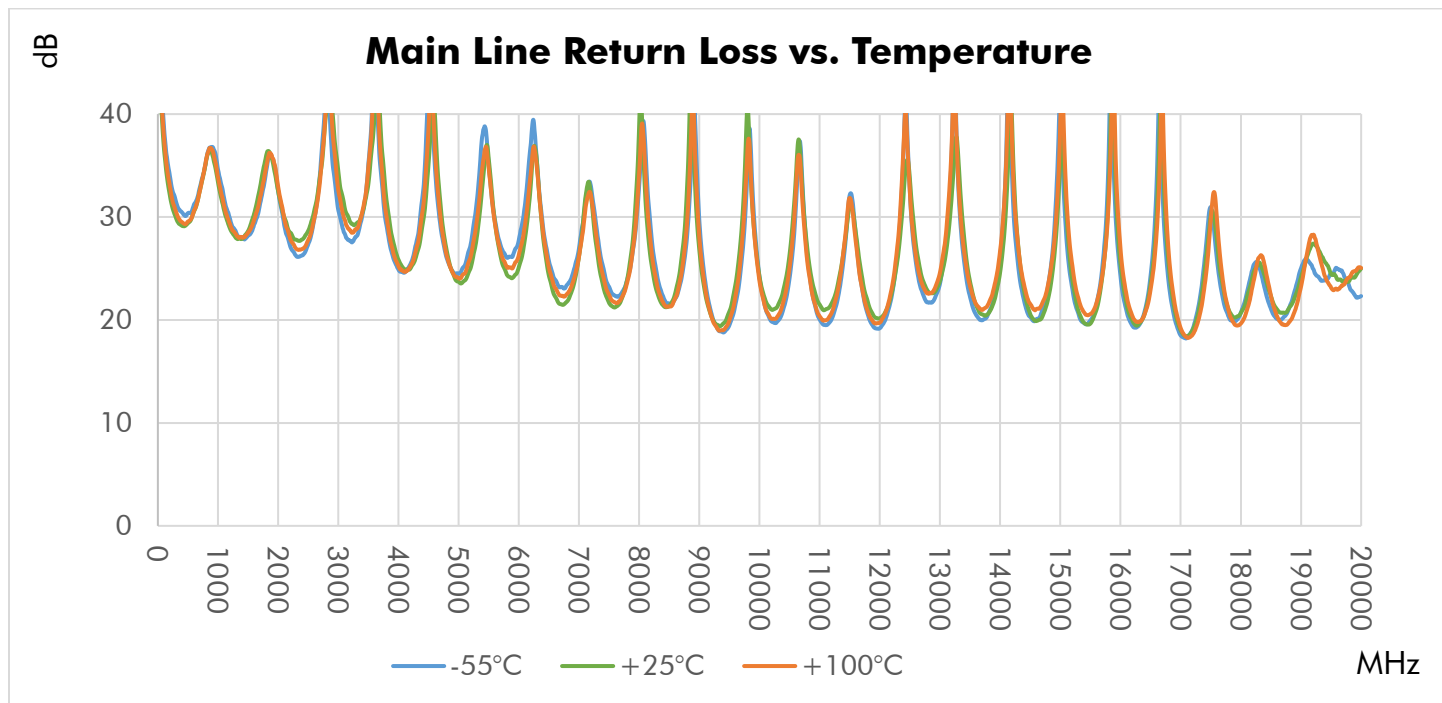
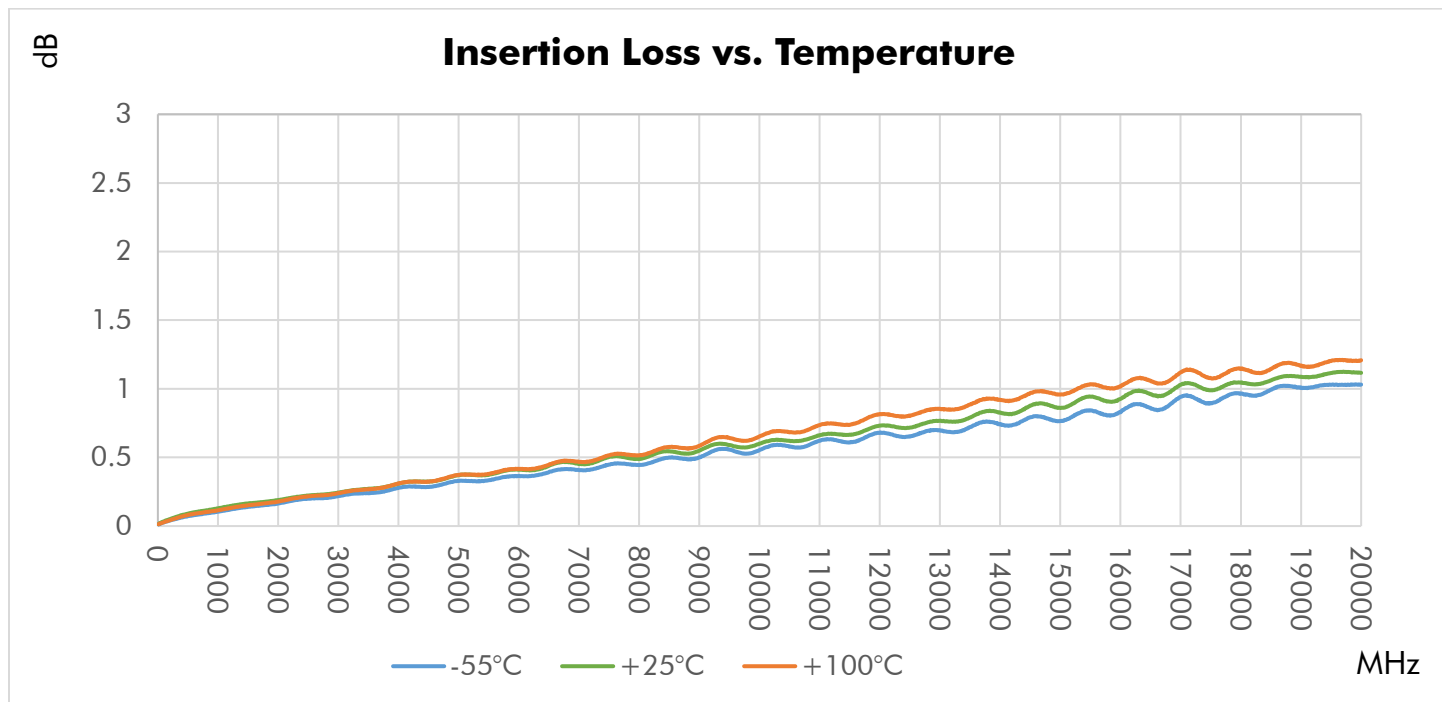
## Typical Performance at +25 °C



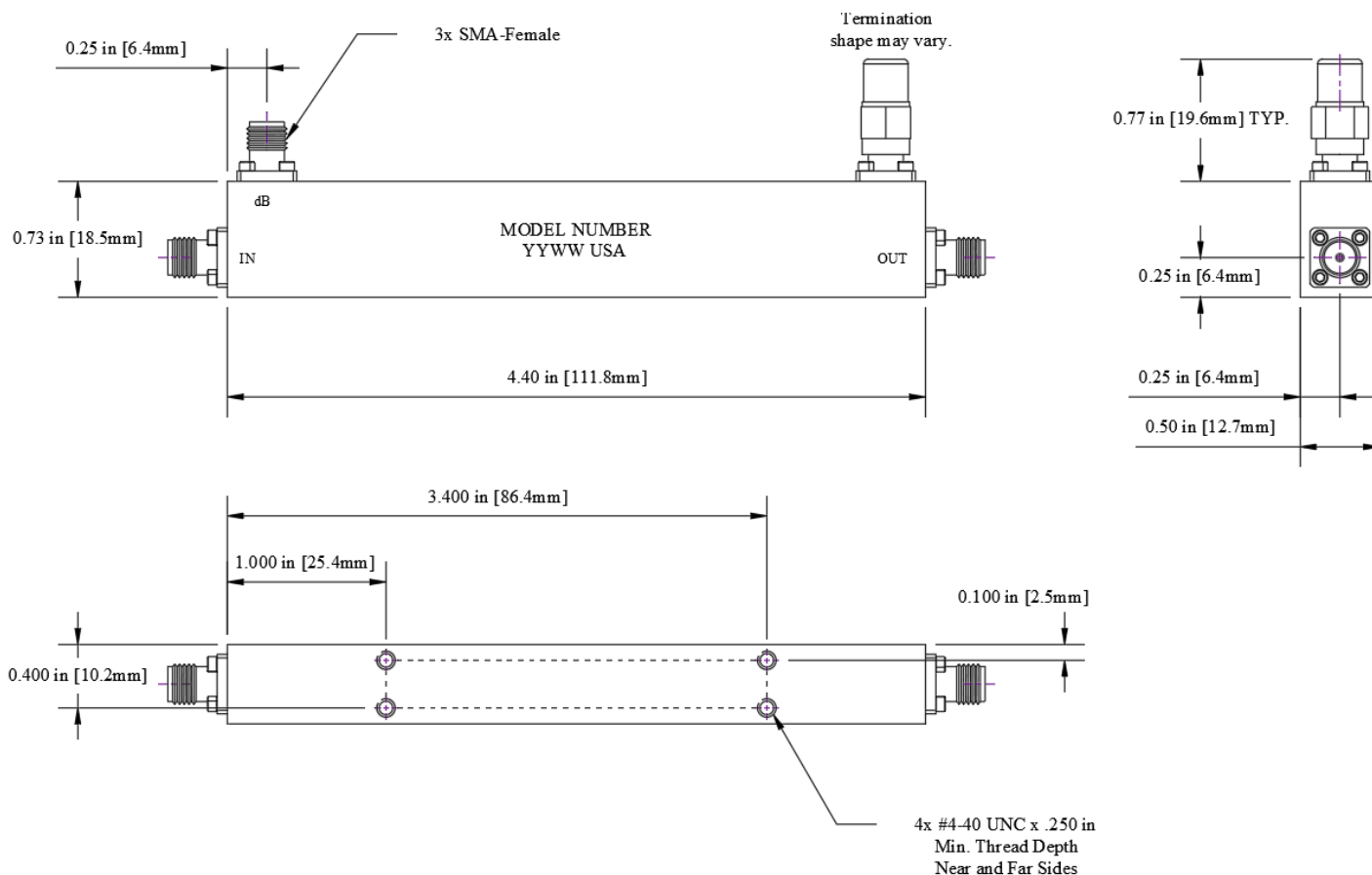


## Typical Performance Over Temperature





## Outline Dimensions



### Outline # OL-1185

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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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.