

Directional Coupler, 2-8GHz, 10dB, SMA Female

WMC-2-8-10dB-S

Description

Model WMC-2-8-10dB-S from Werbel Microwave is a directional coupler that covers 2 to 8 GHz with broadband flat coupling response, high directivity, and excellent return loss performance. Coupling flatness ± 0.5 dB typical. Return loss 23dB typical. Directivity 22dB typical. Mainline loss 0.72dB typical. The 2-8GHz makes it ideal for Wi-Fi and extended Wi-Fi test setups, as well as military radio S band and C band operations all in one device. The small enclosure measures 2.00 x 0.69 x 0.38 inches and includes two mounting holes within the envelope. Connectors are stainless steel SMA female. The device is RoHS compliant.



Photo is representative.

Specifications	Min.	Typ.	Max.	Units
Frequency	2	--	8	GHz
Impedance	--	50	--	Ohm
Coupling	--	10 \pm 1.0	--	dB
Frequency Sensitivity (Flatness)	--	\pm 0.50	\pm 1.25	dB
Mainline Loss ¹	--	0.72	1.00	dB
Directivity	18	22	--	dB
Return Loss (In and Out)	19	23	--	dB
Return Loss (Coupling)	19	22	--	dB
Isolation	--	32	--	dB
Input Power (CW) ²	--	--	50	Watts

Mechanical

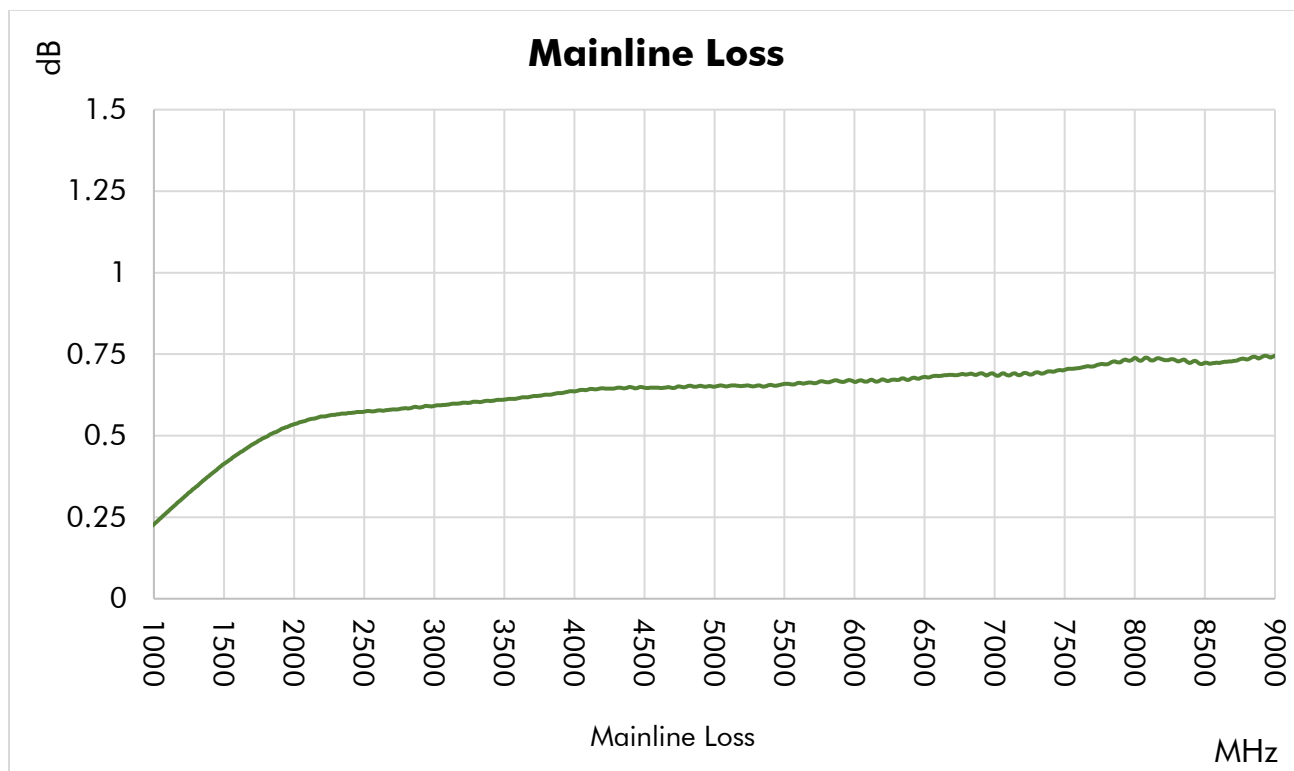
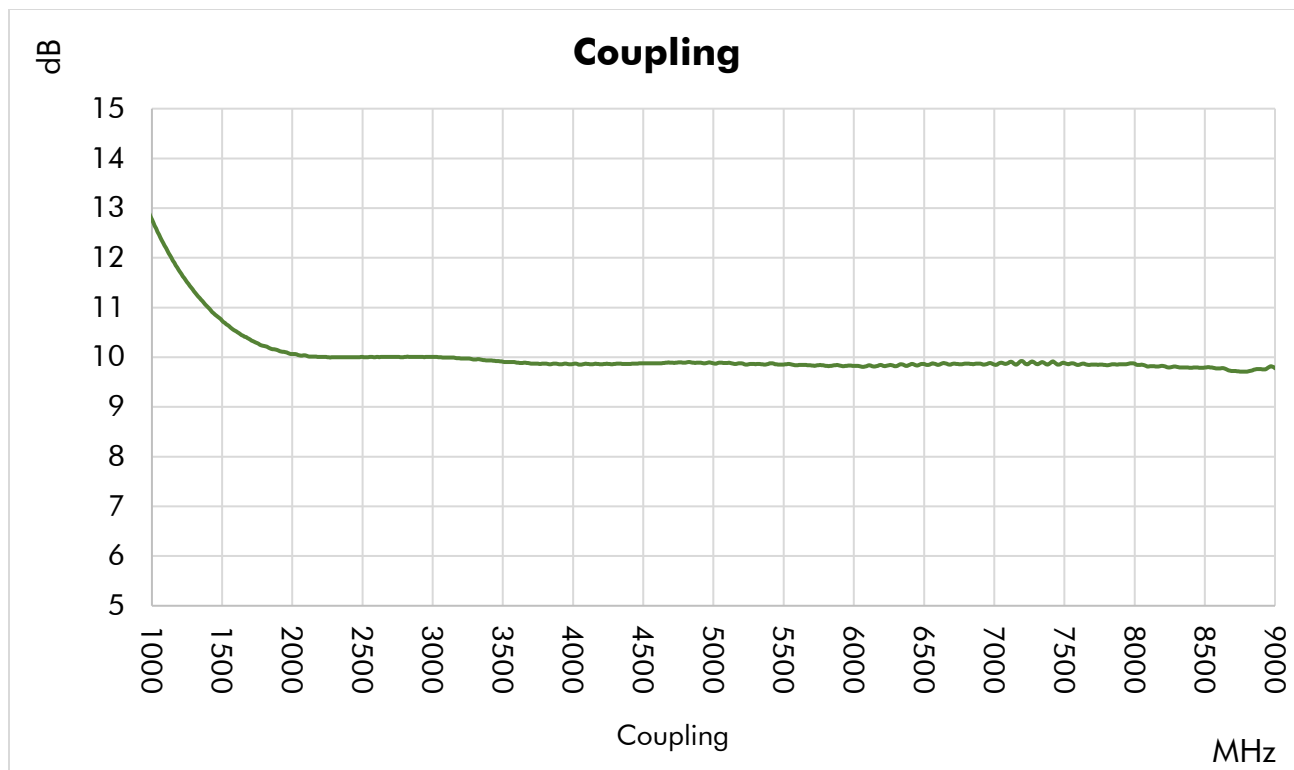
Connector Interface	SMA-Female
Operating Temperature ³	-55 to +85 °C
Storage Temperature	-55 to +100 °C
Weight	1 oz (28 g)
Humidity	10-90% non-condensing
Environment	Indoor Use Only

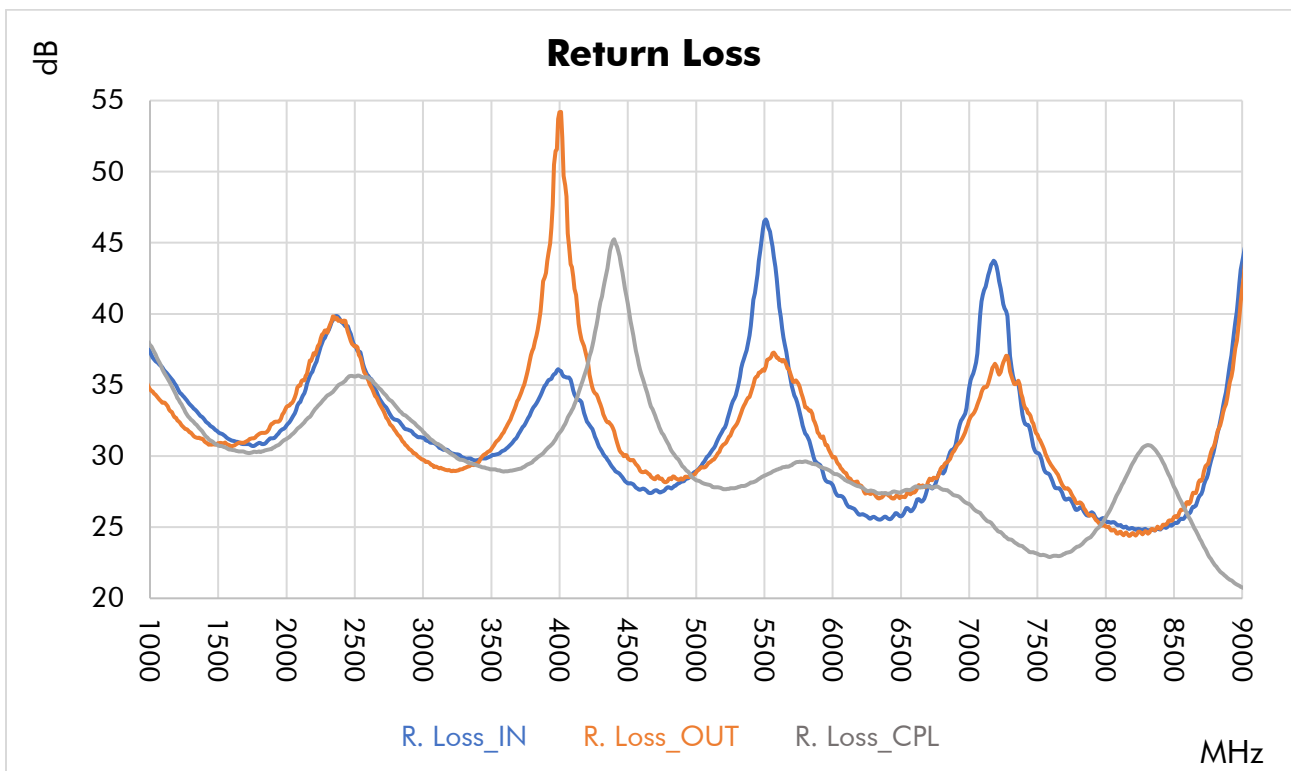
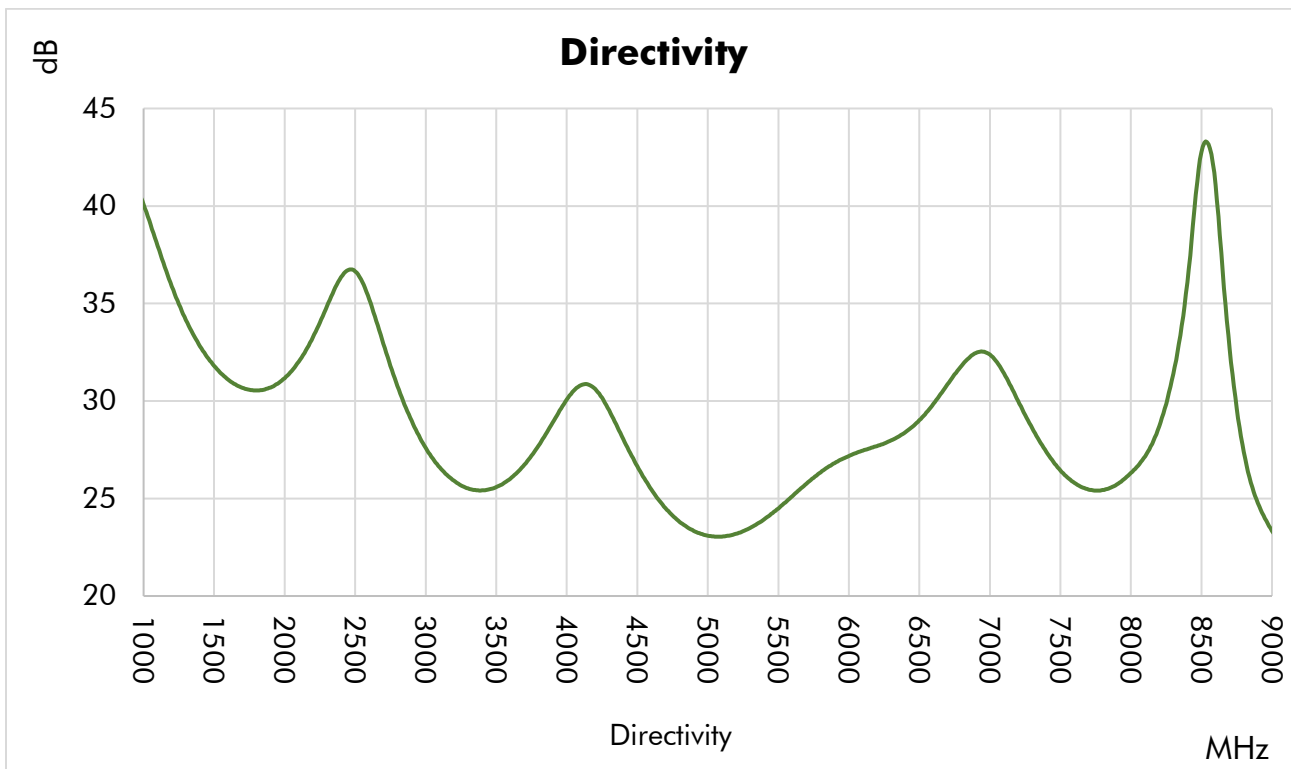
Materials

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

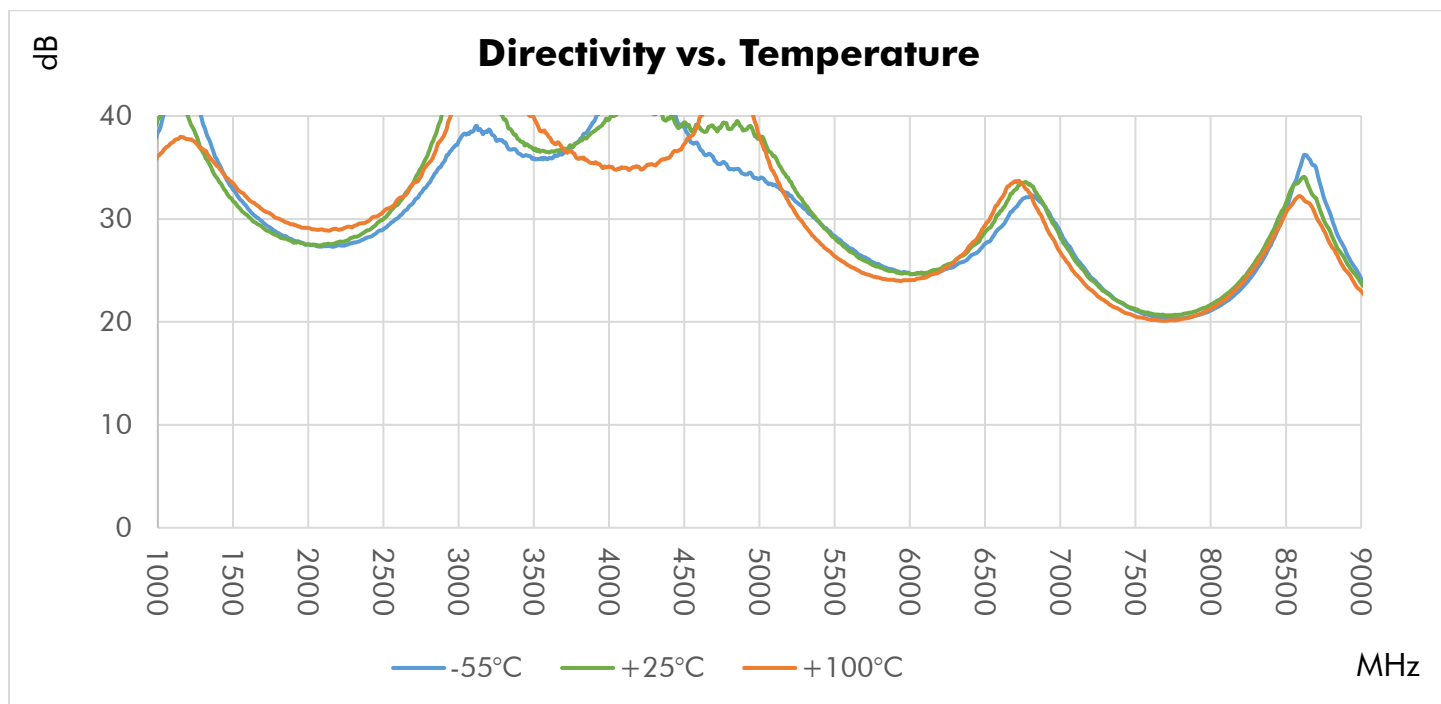
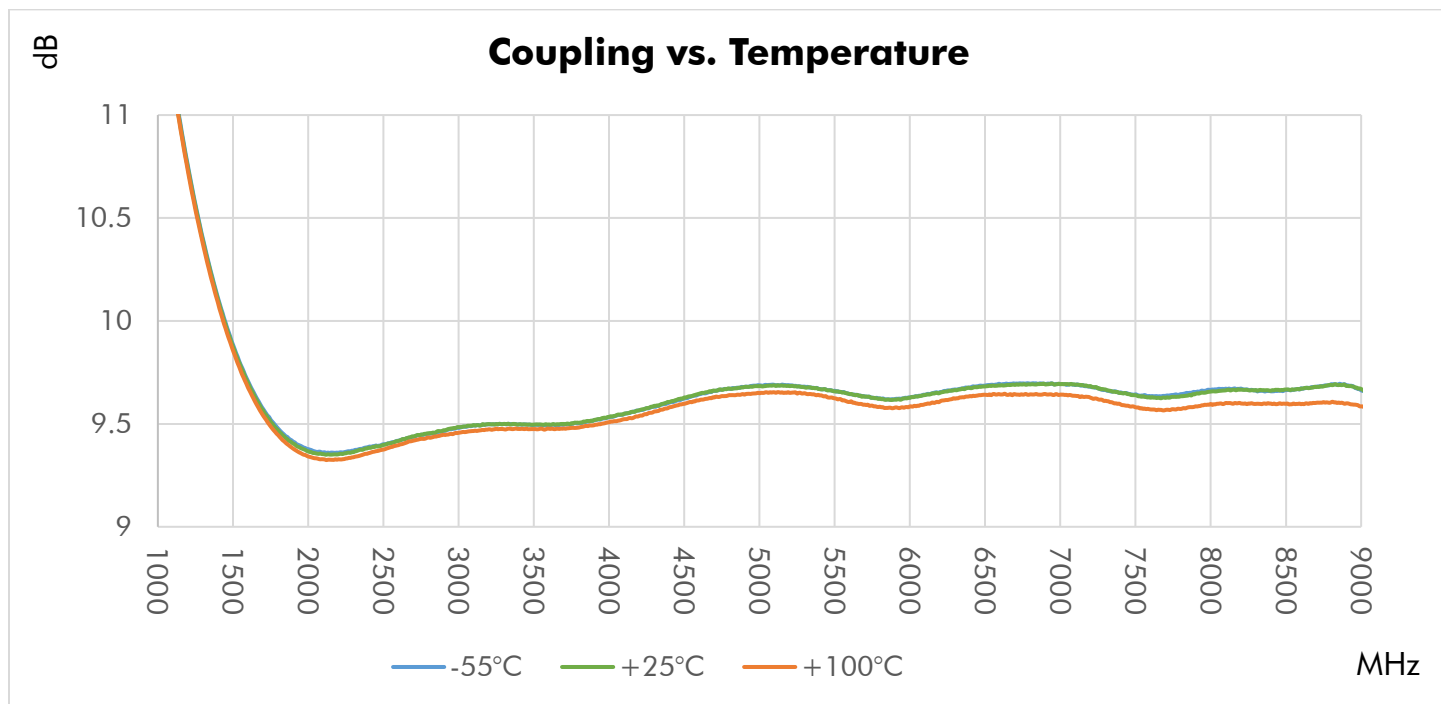
1. Mainline loss includes coupling loss.
2. All output ports should be terminated in a 50-ohm load with 1.2:1 max VSWR.
3. Electrical specifications at +25 °C only.
4. To the best of our knowledge at time of publication.

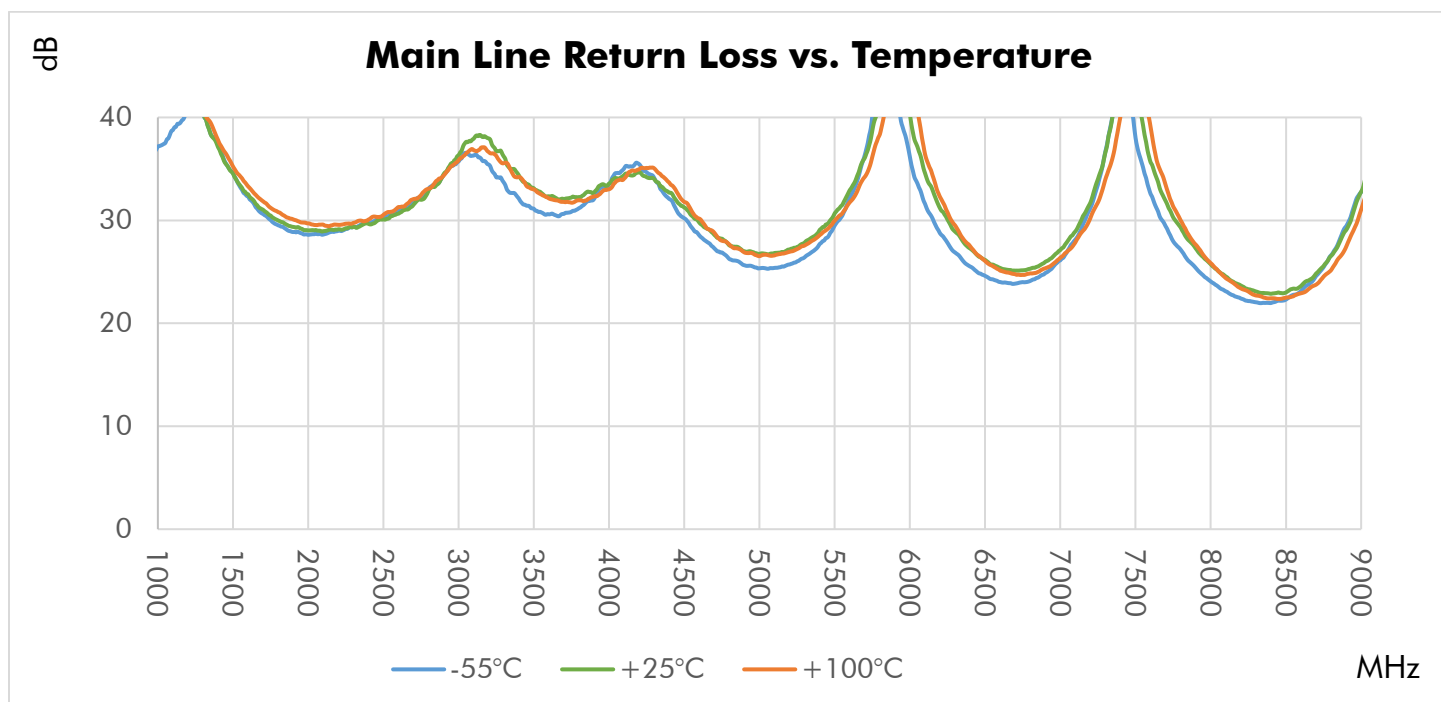
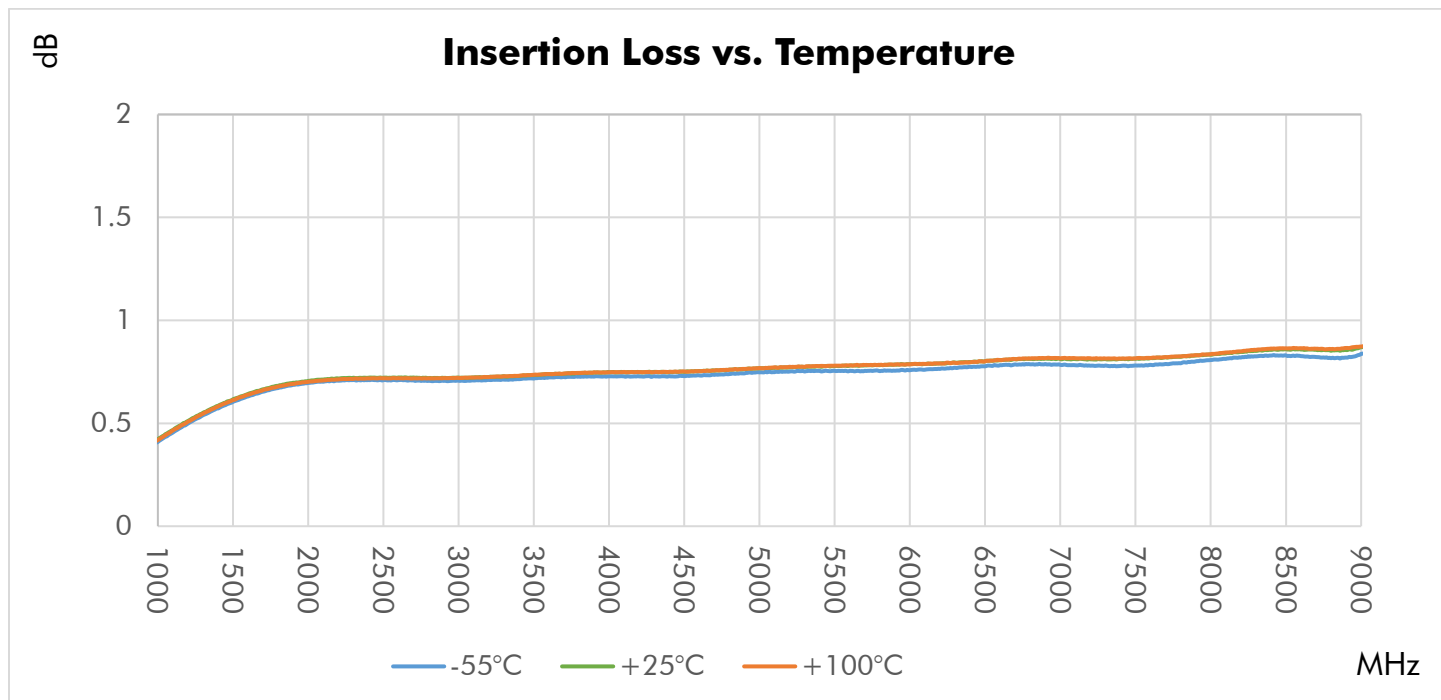
Typical Performance at +25 °C





Typical Performance Over Temperature

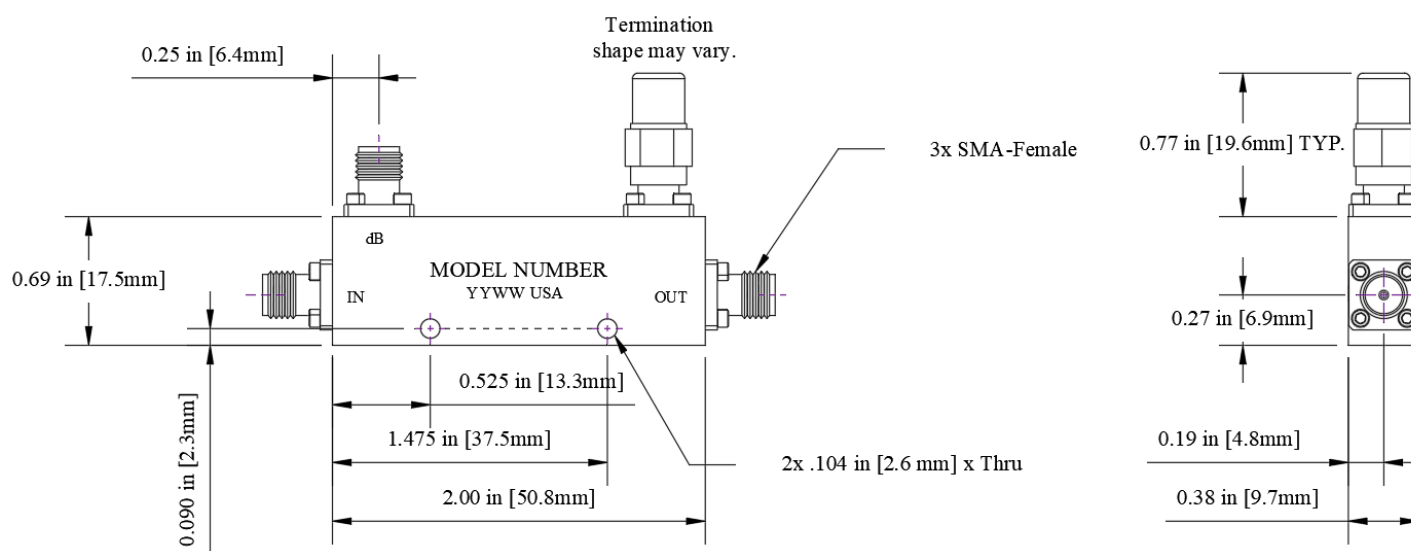




Typical Performance Data

Frequency (MHz)	Return Loss (dB)			Mainline Loss (dB)	Coupling (dB)	Directivity (dB)
	In	Out	Cpl.	In-Out	In-Cpl.	
2000	32.8	33.7	31.2	0.6	10.1	31.8
2250	39.5	38.8	33.8	0.6	10.0	35.5
2500	35.8	37.5	34.9	0.6	10.0	35.7
2750	32.7	31.8	33.4	0.6	10.0	30.0
3000	31.7	29.7	31.0	0.6	10.0	26.7
3250	30.2	29.1	29.5	0.6	10.0	25.4
3500	30.0	31.1	29.0	0.6	9.9	25.9
3750	33.1	36.7	29.6	0.6	9.9	28.1
4000	35.8	51.7	32.4	0.6	9.9	30.9
4250	30.8	34.3	40.6	0.6	9.9	29.0
4500	27.5	29.3	37.0	0.6	9.9	25.6
4750	27.4	28.5	30.5	0.7	10.0	23.6
5000	29.5	29.3	28.4	0.7	9.9	23.0
5250	35.1	31.8	28.2	0.7	9.8	23.6
5500	47.5	36.2	28.5	0.7	9.8	25.0
5750	32.0	34.5	29.3	0.7	9.9	26.6
6000	27.5	29.7	28.5	0.6	9.8	27.4
6250	25.5	27.9	27.3	0.7	9.9	28.1
6500	25.5	27.7	27.1	0.7	9.9	29.7
6750	28.5	28.5	27.6	0.6	9.9	32.2
7000	39.1	33.5	26.8	0.7	9.8	31.7
7250	35.1	37.9	24.5	0.7	10.0	28.1
7500	30.1	31.0	23.1	0.7	9.9	25.8
7750	26.4	26.1	23.3	0.7	9.8	25.4
8000	24.9	24.5	26.4	0.8	9.9	27.0

Outline Dimensions



Outline # OL-1305

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

Tolerances on 2-pl decimals: $\pm .03$. 3-pl decimals: $\pm .015$.

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