

Directional Coupler 6 dB SMA Female from 2 GHz to 18 GHz

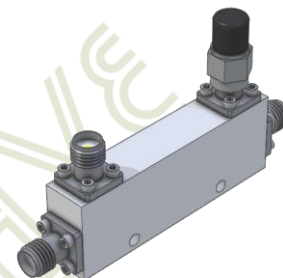
Directional Couplers Technical Data Sheet

C-0218-06

Description

Directional couplers are important components for use in isolating, separating, replicating, and combining microwave signals. They can serve as accurate attenuator measurements as they eliminate reflections. They are incredibly useful in sampling RF signals for use in detectors, gain control and feedback loops.

The C-0218-06 is part of Werbel Microwave's catalog of single and dual directional couplers that offer a wide range of coupling values and frequency ranges. Available with SMA female connectors.



Specification	Min	Typ.	Max	Units
Frequency	2		18	GHz
Impedance		50		Ohm
Coupling		6.8	±1.5	dB
Frequency Sensitivity (Flatness)		±0.7	±1.2	dB
Insertion Loss Measured at Highest Frequency (above theoretical coupling/splitting loss)		1.6	2.2	dB
Directivity	15	18		dB
Main Line VSWR			1.5	:1
Secondary Line VSWR			1.5	:1
Input Power (CW) into 1.2:1 max load VSWR			25	Watts
Reverse Power (CW) into 1.2:1 max load VSWR			2	Watts
Termination			1	Watts

Mechanical

Connector Interface	SMA-Female
Operating Temperature*	-55 to +85 °C
Storage Temperature	-55 to +100 °C
Weight	1.17 oz (33.23 g)
Humidity	10-90% non-condensing
Environment	Indoor Use Only

* Design to meet based on materials. Production-tested at +25 °C. External heatsink and convection cooling recommended to maintain body temperature below +50 °C.

Materials

RoHS and REACH Compliant

Enclosure	Aluminum
Connectors	Stainless Steel
Contacts	Be Cu, Gold Plated
Insulators	PTFE
Finish	Black

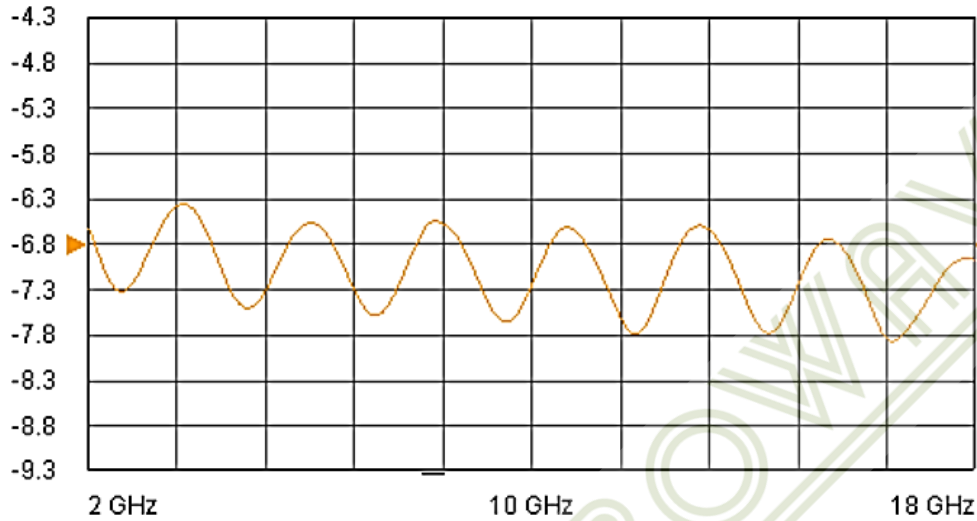


MADE IN USA

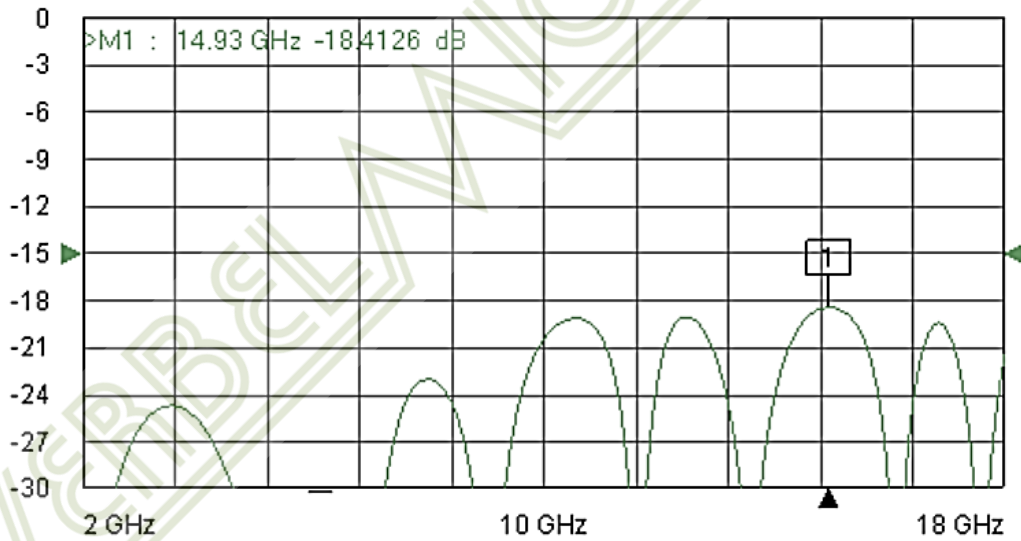


Typical Performance at +25 °C

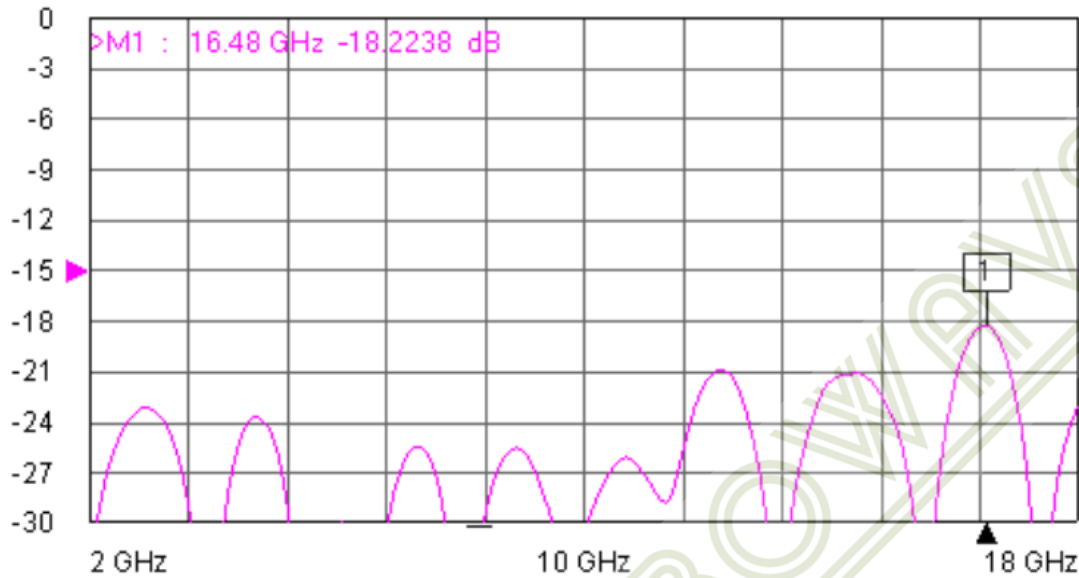
Coupling Value and Flatness



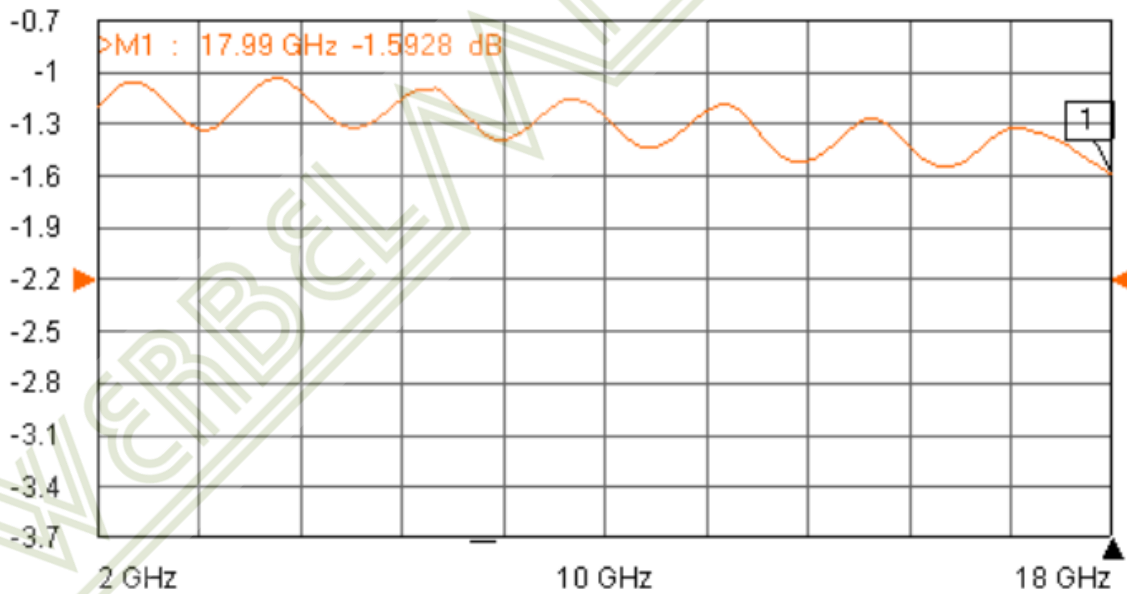
Directionality



Return Loss



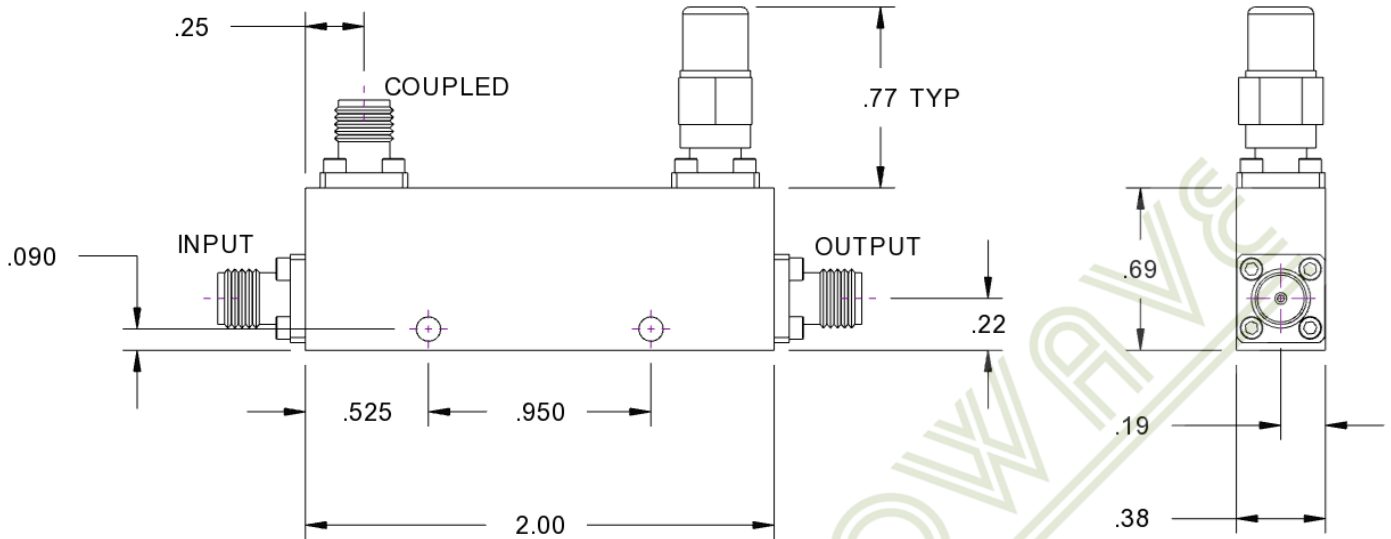
Insertion Loss



Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)	Coupling (dB)	Directivity (dB)	Return Loss Input (dB)	Return Loss Output (dB)	Return Loss Coupled (dB)
2.00	-1.21	-6.58	-33.82	-37.23	-32.58	-32.83
2.40	-1.09	-7.22	-32.20	-26.93	-25.40	-25.51
2.80	-1.09	-7.22	-27.34	-22.18	-20.67	-23.15
3.20	-1.23	-6.73	-25.17	-22.20	-21.77	-23.94
3.60	-1.32	-6.37	-24.74	-25.54	-26.09	-29.26
4.00	-1.27	-6.49	-25.71	-32.67	-34.34	-37.52
4.40	-1.13	-7.08	-28.24	-29.85	-32.74	-25.19
4.80	-1.05	-7.49	-31.22	-26.28	-24.89	-23.98
5.20	-1.11	-7.28	-32.33	-26.53	-25.64	-29.38
5.60	-1.25	-6.78	-35.02	-29.72	-31.07	-40.32
6.00	-1.32	-6.56	-35.69	-33.56	-36.01	-29.73
6.40	-1.28	-6.78	-34.68	-42.12	-40.92	-32.41
6.80	-1.16	-7.32	-41.72	-35.98	-44.79	-30.14
7.20	-1.09	-7.55	-30.57	-29.60	-37.37	-25.47
7.60	-1.20	-7.23	-24.24	-29.90	-41.73	-27.38
8.00	-1.32	-6.69	-22.93	-37.38	-30.47	-42.25
8.40	-1.40	-6.58	-24.55	-36.47	-30.45	-29.17
8.80	-1.28	-6.87	-31.19	-27.20	-29.15	-25.52
9.20	-1.22	-7.42	-35.02	-25.20	-27.23	-27.25
9.60	-1.19	-7.62	-23.86	-26.79	-32.37	-31.65
10.00	-1.28	-7.23	-20.37	-34.32	-28.68	-30.19
10.40	-1.39	-6.68	-19.24	-38.91	-24.09	-26.73
10.80	-1.43	-6.63	-19.52	-28.54	-25.45	-26.02
11.20	-1.35	-7.06	-22.70	-25.37	-26.86	-28.10
11.60	-1.20	-7.64	-42.51	-25.13	-25.73	-25.33
12.00	-1.21	-7.70	-22.30	-28.70	-33.25	-21.48
12.40	-1.31	-7.09	-19.12	-43.87	-24.64	-21.40
12.80	-1.53	-6.65	-20.26	-27.68	-23.81	-26.61
13.20	-1.49	-6.63	-24.94	-23.27	-24.38	-34.85
13.60	-1.45	-7.05	-32.81	-22.71	-22.39	-24.39
14.00	-1.25	-7.55	-23.58	-25.99	-26.29	-21.23
14.40	-1.33	-7.76	-19.71	-30.46	-29.25	-21.31
14.80	-1.42	-7.17	-18.51	-24.86	-21.12	-22.42
15.20	-1.57	-6.76	-18.82	-22.24	-20.09	-27.46
15.60	-1.52	-6.81	-21.24	-23.00	-22.91	-30.82
16.00	-1.42	-7.35	-32.66	-30.02	-29.17	-21.20
16.40	-1.32	-7.82	-24.07	-32.01	-27.02	-18.35
16.80	-1.39	-7.61	-19.43	-25.34	-18.90	-19.93
17.20	-1.47	-7.30	-22.44	-24.97	-18.21	-29.82
17.60	-1.47	-6.91	-35.17	-29.73	-20.29	-27.56
18.00	-1.60	-6.97	-21.05	-25.35	-20.07	-22.85

Outline Dimensions



Outline # OL-1305-1

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

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

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