

SMA Directional Coupler 10 dB from 1 GHz to 20 GHz

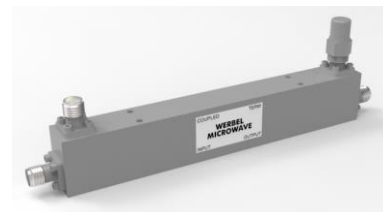
Economy Directional Couplers Technical Data Sheet

C-0120-10

Description

Werbel Microwave is a USA based designer and manufacturer of microwave components for use in telecommunications systems. Directional couplers are used in signal sampling, replication, measurement, attenuation and minimizing reflections. They are useful in splitting and combining RF signal networks.

The C-0120-10 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. This model offers a high performance at low cost.



Specification	Min	Typ.	Max	Units
Frequency	1		20	GHz
Impedance		50		Ohm
Coupling (average of all frequency points)		10	±1.0	dB
Frequency Sensitivity (Flatness)		± 0.8	± 1.2	dB
Insertion Loss Measured at Highest Frequency (above theoretical coupling/splitting loss)		2.1	2.2	dB
Directivity	10	13		dB
Main Line VSWR		1.45	1.60	:1
Secondary Line VSWR		1.48	1.70	:1
Input Power (CW) into 1.2:1 max load VSWR			20	Watts
Reverse Power (CW) into 1.2:1 max load VSWR			3	Watts
Termination			1	Watts

Mechanical

Connector Interface	SMA-Female
Operating Temperature*	-55 to +85 °C
Storage Temperature	-55 to +100 °C
Weight	3.5 oz (86 g)
Humidity	10-90% non-condensing
Environment	Indoor Use Only

Materials

RoHS and REACH Compliant

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

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



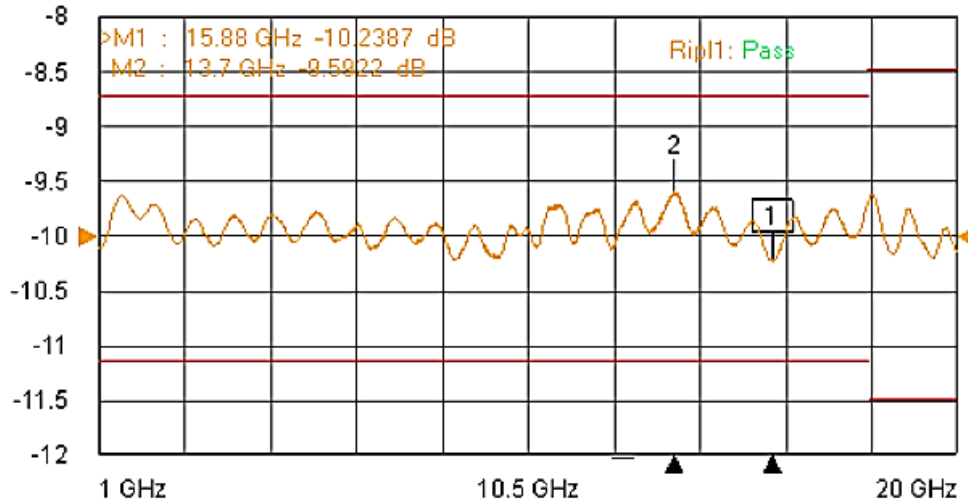
MADE IN USA



Typical Performance at +25 °C

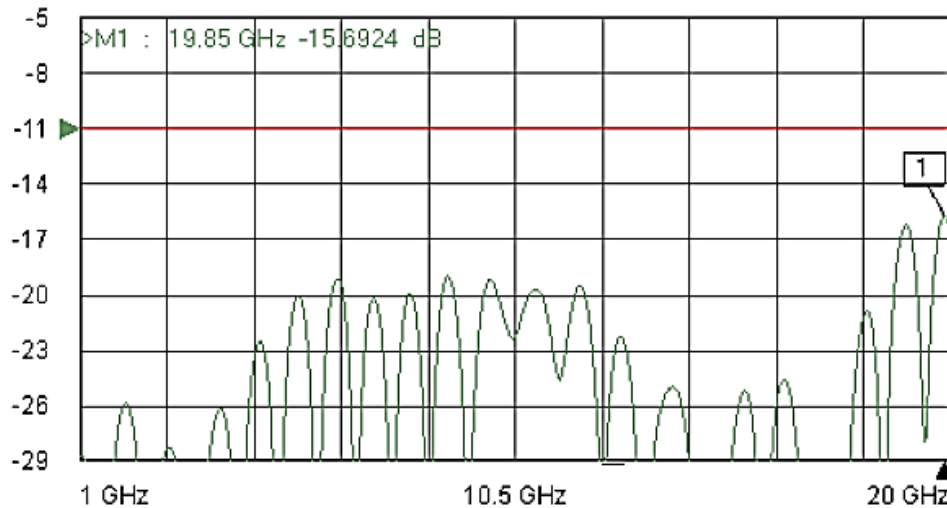
Coupling Value and Flatness

Coupling S21 Trans LogM RefLvl: -10 dB Res: 0.5 dB/Div



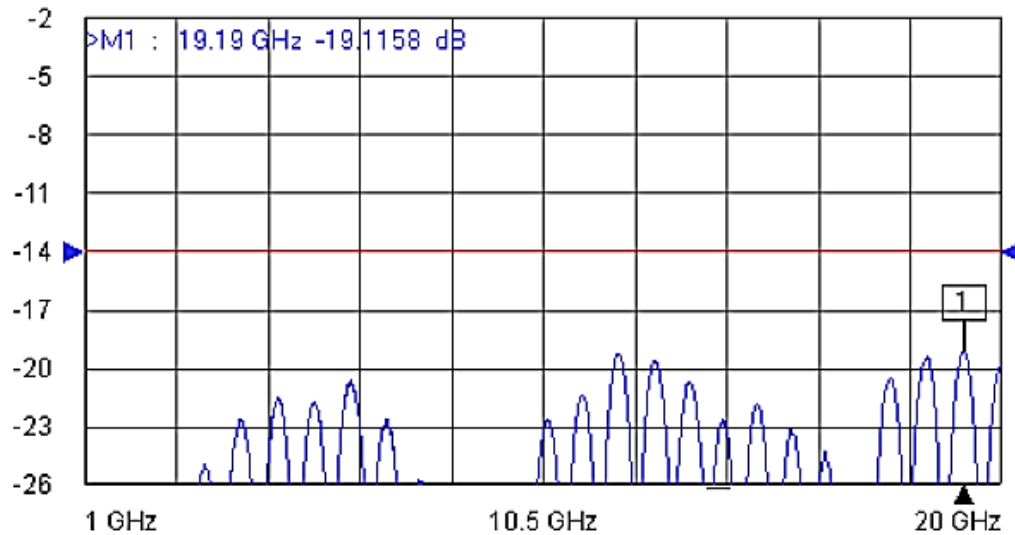
Directionality

Directivity [D/M] S21 Trans LogM RefLvl: -11 dB Res: 3 dB/Div



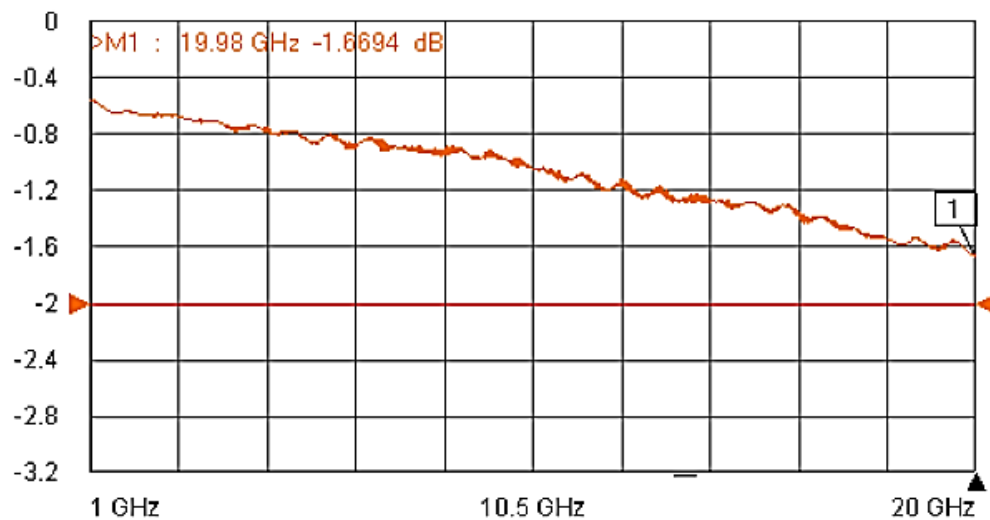
Return Loss

VSWR S11 Refl LogM RefLvl: -14 dB Res: 3 dB/Div

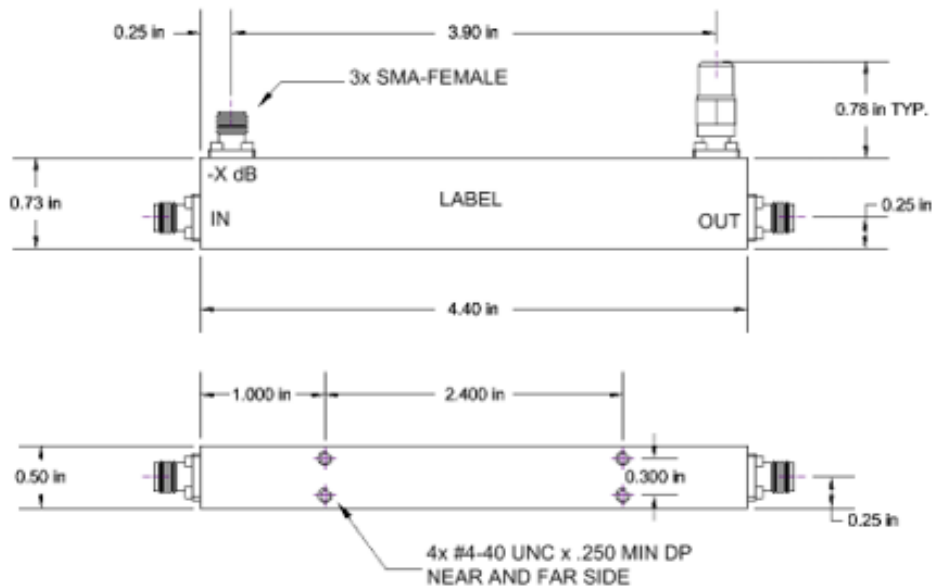


Insertion Loss

InsLoss S21 Trans LogM RefLvl: -2 dB Res: 0.4 dB/Div

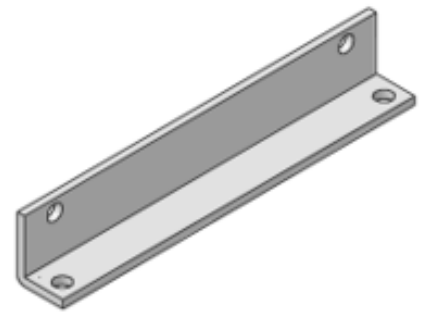


Outline Dimensions



Horizontal Mounting Bracket
(Optional)

Part no. BKT-1185



Use with #4-40 UNC machine screws.

Outline # OL-1185

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

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

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or documentation of the part, in order to implement improvements. 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 does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, 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.