

Coaxial Bi-Directional Coupler

ZX30-20-20BD-S+

50Ω, 20dB Coupling, 500 to 2000 MHz



Generic photo used for illustration purposes only

CASE STYLE: GW1052

Connectors Model
SMA ZX30-20-20BD-S+

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Maximum Ratings

Operating Temperature -40°C to 85°C

Storage Temperature -55°C to 100°C

Permanent damage may occur if any of these limits are exceeded.

Coaxial Connections

INPUT	1
OUTPUT	4
COUPLED (forward)	2
COUPLED (reverse)	3

Features

- very broadband, multi octave
- low mainline loss, 0.2 dB typ.
- power handling, 2 watts
- low cost
- protected by US patent, 6,790,049

Applications

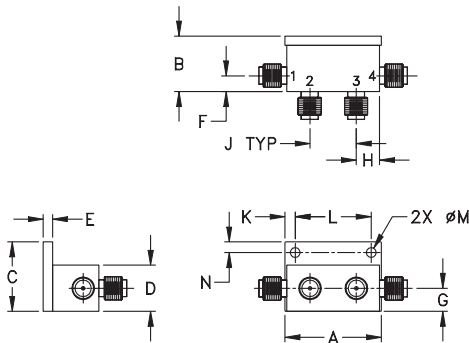
- UHF, GSM, ISM, GPS & PCN
- cellular

Bi-Directional Coupler Electrical Specifications

FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT (W)
	Nom.	Typ. Flatness	Typ.	Max.	Typ.	Min.		
500-800	22.5±1.0	±0.5	0.2	0.4	21	16	1.2	2
800-1000	21.5±1.0	±0.4	0.15	0.35	21	16	1.2	2
1000-1500	20.5±1.0	±0.8	0.2	0.4	20	16	1.2	2
1700-2000	19.0±1.0	±0.4	0.25	0.5	20	14	1.2	2

1. Mainline loss includes theoretical power loss at coupled port.

Outline Drawing



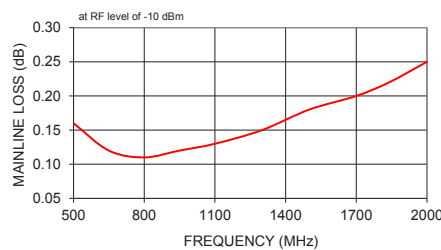
Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
1.04	.60	.75	.50	.10	.17	.25
26.42	15.24	19.05	12.70	2.54	4.32	6.35
H	J	K	L	M	N	wt.
.25	.50	.11	.820	.106	.12	grams
6.35	12.70	2.79	20.83	2.69	3.05	21.0

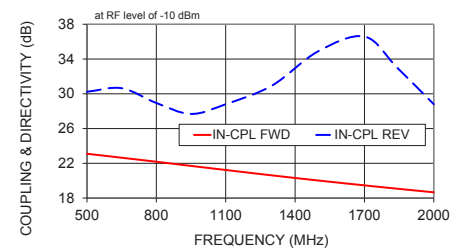
Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB)		Directivity (dB)		Return Loss (dB)			
		In-Cpl Fwd	Out-Cpl Rev	Out-Cpl Fwd	In-Cpl Rev	In	Out	Cpl Fwd	Cpl Rev
500.00	0.16	23.10	23.06	20.43	30.23	17.89	17.83	16.81	16.72
650.00	0.12	22.64	22.58	20.14	30.64	21.76	21.12	19.56	19.50
800.00	0.11	22.18	22.12	19.89	28.94	24.79	24.56	21.83	21.91
950.00	0.12	21.70	21.60	19.86	27.68	26.57	26.33	23.96	24.12
1100.00	0.13	21.23	21.15	20.23	28.80	28.48	27.27	25.88	25.95
1300.00	0.15	20.61	20.50	20.96	30.94	27.89	27.83	28.13	27.68
1500.00	0.18	20.02	19.92	21.68	34.89	26.64	27.27	29.66	29.05
1700.00	0.20	19.46	19.36	22.08	36.59	25.04	25.34	29.41	29.26
1840.00	0.22	19.08	18.98	21.62	33.05	23.87	23.92	28.03	28.44
2000.00	0.25	18.66	18.54	20.89	28.80	22.33	21.94	26.51	27.04

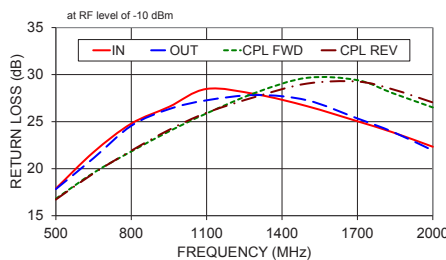
ZX30-20-20BD-S+
MAINLINE LOSS



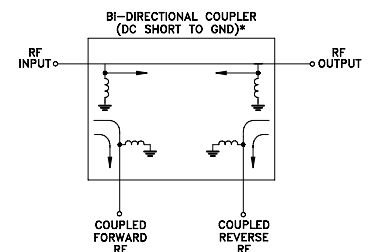
ZX30-20-20BD-S+
COUPLING & DIRECTIVITY



ZX30-20-20BD-S+
RETURN LOSS



Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR BI-DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) THAT ROUTES DC FROM RF PORTS TO GROUND.

Notes

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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