

Coaxial Directional Coupler

50Ω

1 to 500 MHz

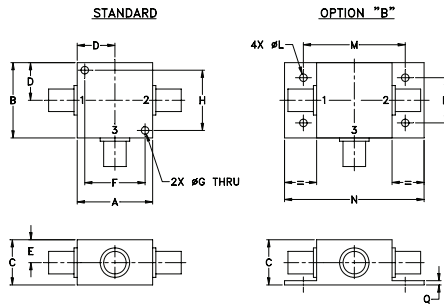
Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C

Coaxial Connections

INPUT	1
OUTPUT	2
COUPLED	3

Outline Drawing



Outline Dimensions (inch)

A	B	C	D	E	F	G	H
1.25	1.25	.75	.63	.38	1.00	.125	1.000
31.75	31.75	19.05	16.00	9.65	25.40	3.18	25.40
J	K	L	M	N	P	Q	wt
--	--	.125	1.688	2.18	.75	.07	grams
--	--	3.18	42.88	55.37	19.05	1.78	70.0

Features

- excellent directivity, 33 dB typ.
- excellent mainline loss, 0.8 dB typ.
- rugged shielded case

Applications

- VHF/UHF
- instrumentation
- communication receivers & transmitters
- amateur radio

ZFDC-10-1+



Generic photo used for illustration purposes only

CASE STYLE: K18

Connectors	Model
BNC	ZFDC-10-1+
SMA	ZFDC-10-1-S+
N-TYPE	ZFDC-10-1-N+
BRACKET (OPTION "B")	

+RoHS Compliant

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

Electrical Specifications

FREQ. RANGE (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)						DIRECTIVITY (dB)						VSWR (:1)	POWER INPUT (W)	
			L		M		U		L		M		U				
	f _L -f _U	Nom.	Flatness	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.
1-500	10.5±0.25	±0.6	1.0	1.3	0.8	1.1	1.0	1.3	32	25	33	25	22	15	1.2	1.5	3.0

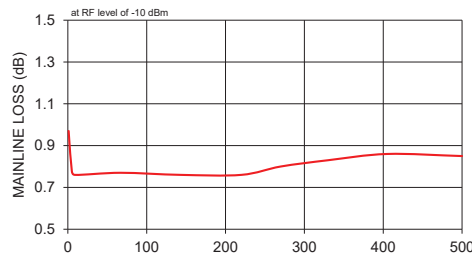
L = low range [f_L to $10 f_L$] M = mid range [$10 f_L$ to $f_U/2$] U = upper range [$f_U/2$ to f_U]

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

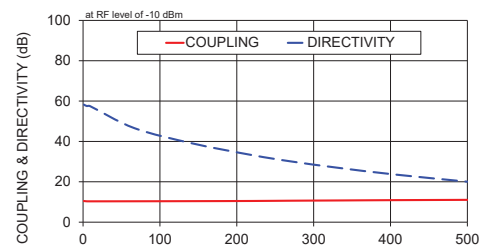
Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
1.00	0.97	10.47	58.25	25.76	18.55	19.10
5.00	0.78	10.32	57.52	32.88	20.94	21.28
9.00	0.76	10.31	57.51	33.62	21.25	21.54
67.00	0.77	10.34	46.55	30.69	21.30	21.61
143.00	0.76	10.40	38.96	26.28	20.66	21.32
220.00	0.76	10.49	33.22	23.55	19.85	20.86
270.00	0.80	10.62	30.12	22.35	19.32	20.45
330.00	0.83	10.74	27.02	21.34	18.68	19.89
405.00	0.86	10.90	23.63	20.56	18.03	19.15
500.00	0.85	11.04	20.05	20.16	17.44	18.20

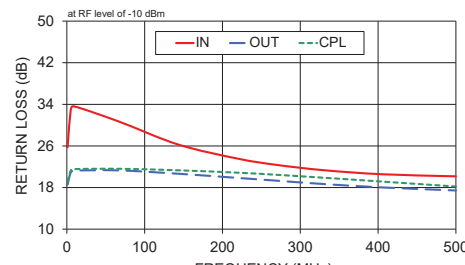
ZFDC-10-1-S+
MAINLINE LOSS



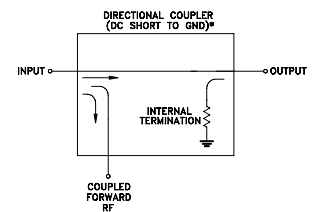
ZFDC-10-1-S+
COUPLING & DIRECTIVITY



ZFDC-10-1-S+
RETURN LOSS



Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMERS 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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