

75Ω

10 to 1000 MHz

Maximum Ratings

Operating Temperature -55°C to 100°C

Storage Temperature -55°C to 100°C

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

Coaxial Connections

INPUT	1
OUTPUT	2
COUPLED	S

Features

- wideband, 10 to 1000 MHz
- excellent VSWR, 1.17 typ.
- rugged shielded case

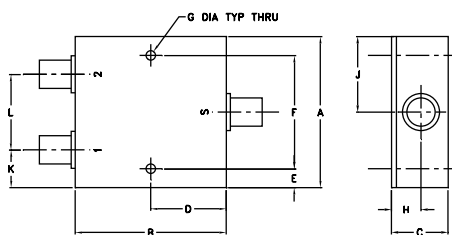
Applications

- cable tv
- instrumentation
- cellular



CASE STYLE: F14

Connectors	Model
BNC	ZADC-10-4-75

Outline Drawing**Outline Dimensions (inch)**

A	B	C	D	E	F	G
2.00	2.00	0.75	1.00	0.25	1.500	0.125
50.80	50.80	19.05	25.40	6.35	38.10	3.18

H	J	K	L	wt
0.39	1.00	0.50	1.00	grams
9.91	25.40	12.70	25.40	170.0

Directional Coupler Electrical Specifications

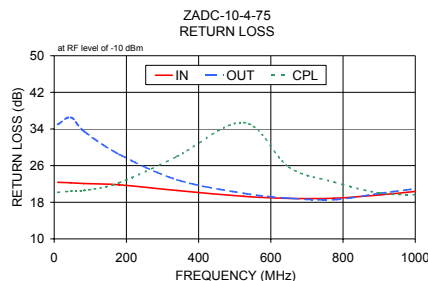
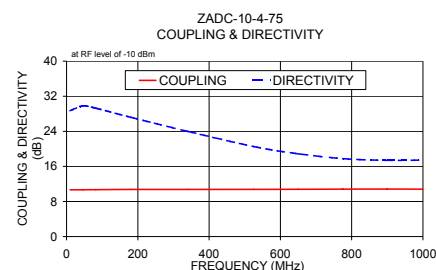
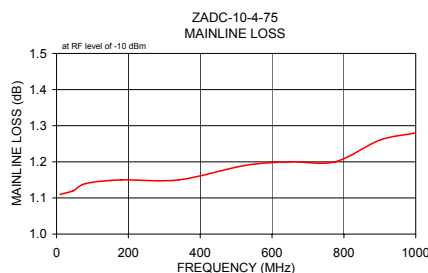
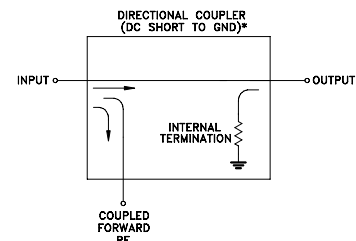
FREQ. RANGE (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)						DIRECTIVITY (dB)						VSWR (:1)	POWER INPUT (W)	
	Nom.	Flatness	L		M		U		L		M		U			L	MU
f _L -f _U			Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.	Max.
10-1000	10.7±0.5	±0.5	1.18	1.9	1.28	1.9	1.32	1.9	27	20	22	15	18	13	1.17	1.0	1.0

L = 10-100 MHz M = 100-500 MHz U = 500-1000 MHz

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
10.00	1.11	10.66	28.71	22.36	35.00	20.15
46.00	1.12	10.68	29.82	22.25	36.55	20.44
82.00	1.14	10.69	29.29	22.09	33.54	20.56
180.00	1.15	10.74	27.22	21.81	28.49	22.26
340.00	1.15	10.74	23.99	20.57	22.92	28.01
525.00	1.19	10.77	20.53	19.29	19.96	35.42
650.00	1.20	10.78	18.88	18.85	18.89	25.69
775.00	1.20	10.81	17.77	18.87	18.57	22.43
900.00	1.26	10.83	17.39	19.59	19.93	20.02
1000.00	1.28	10.81	17.46	20.36	20.95	19.65

**Electrical Schematic**

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

Notes

- A. 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.
 B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
 C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp



Directional Coupler

ZADC-10-4-75

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	COUPLING (dB)	DIRECTIVITY (dB)	RETURN LOSS		
				IN	OUT	CPL
10.0	1.11	10.66	28.71	22.36	35.00	20.15
19.0	1.11	10.67	29.23	22.49	38.90	20.62
28.0	1.11	10.69	29.62	22.41	38.59	20.58
37.0	1.12	10.68	29.79	22.34	37.69	20.51
46.0	1.12	10.68	29.82	22.25	36.55	20.44
55.0	1.13	10.69	29.75	22.20	35.60	20.39
64.0	1.14	10.70	29.65	22.16	34.70	20.40
73.0	1.13	10.68	29.59	22.12	34.05	20.47
82.0	1.14	10.69	29.29	22.09	33.54	20.56
91.0	1.14	10.70	29.20	22.11	33.21	20.71
100.0	1.14	10.71	29.01	22.07	32.92	20.82
140.0	1.14	10.71	28.10	21.91	30.41	21.21
180.0	1.15	10.74	27.22	21.81	28.49	22.26
220.0	1.14	10.72	26.44	21.49	26.85	22.83
260.0	1.16	10.73	25.62	21.12	25.23	24.40
300.0	1.15	10.75	24.77	20.85	23.90	25.53
340.0	1.15	10.74	23.99	20.57	22.92	28.01
380.0	1.18	10.76	23.15	20.20	21.96	29.62
420.0	1.14	10.75	22.41	19.90	21.27	33.49
460.0	1.19	10.76	21.67	19.62	20.43	37.40
500.0	1.19	10.76	20.96	19.43	20.20	34.46
525.0	1.19	10.77	20.53	19.29	19.96	35.42
550.0	1.17	10.76	20.17	19.10	19.20	33.04
575.0	1.19	10.77	19.81	19.07	19.37	29.54
600.0	1.19	10.78	19.47	19.00	19.39	29.54
625.0	1.20	10.77	19.12	18.85	18.75	27.91
650.0	1.20	10.78	18.88	18.85	18.89	25.69
675.0	1.21	10.78	18.59	18.82	19.05	25.74
700.0	1.20	10.79	18.36	18.76	18.48	24.50
725.0	1.20	10.79	18.12	18.88	18.68	22.89
750.0	1.24	10.80	17.94	18.91	19.07	23.01
775.0	1.20	10.81	17.77	18.87	18.57	22.43
800.0	1.22	10.79	17.62	19.02	18.68	21.09
825.0	1.25	10.82	17.56	19.15	19.30	21.19
850.0	1.22	10.81	17.46	19.14	18.93	20.97
875.0	1.25	10.80	17.39	19.40	19.07	19.88
900.0	1.26	10.83	17.39	19.59	19.93	20.02
925.0	1.25	10.80	17.37	19.63	19.69	20.09
950.0	1.27	10.82	17.36	19.96	19.78	19.15
975.0	1.28	10.83	17.38	20.24	20.94	19.27
1000.0	1.28	10.81	17.46	20.36	20.95	19.65

REV. X1

ZADC-10-4-75

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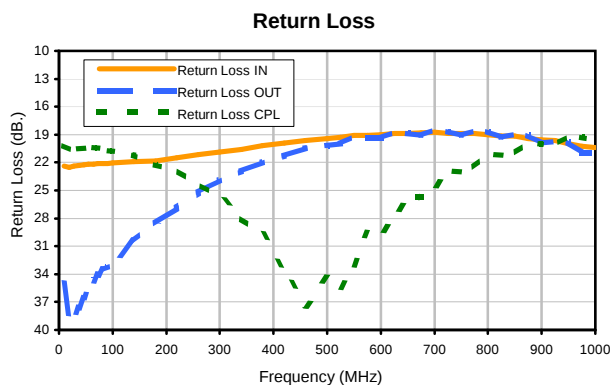
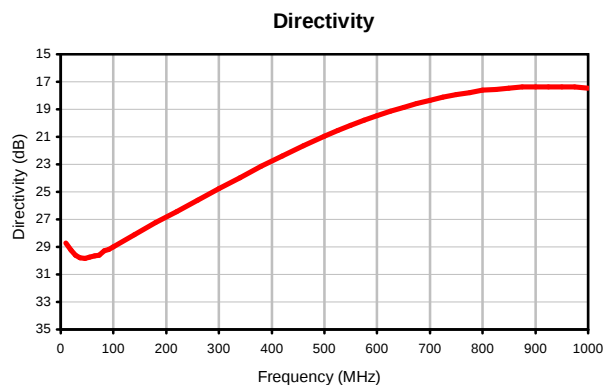
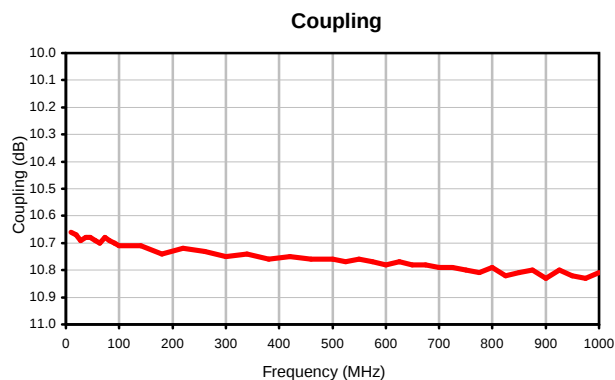
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Directional Coupler

Typical Performance Curves

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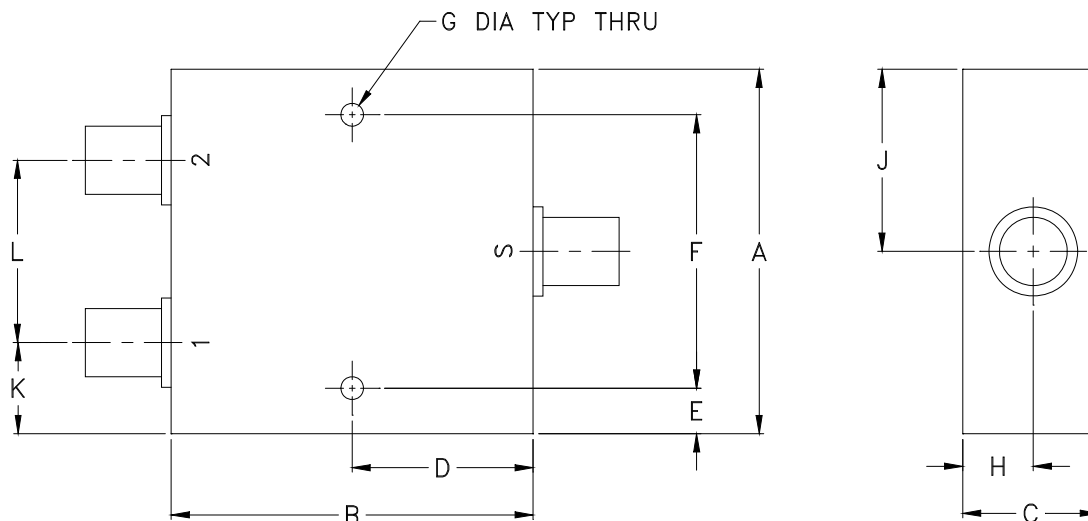


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Outline Dimensions



CASE #	A	B	C	D	E	F	G	H	J	K	L	WT. GRAM
F14	2.00 (50.80)	2.00 (50.80)	.75 (19.05)	1.00 (25.40)	.25 (6.35)	1.500 (38.10)	.125 (3.18)	.39 (9.91)	1.00 (25.40)	.50 (12.70)	1.00 (25.40)	170.0

Dimensions are in inches (mm). Tolerances: 2Pl. $\pm .03$; 3Pl. $\pm .015$

Notes:

- Case material: Aluminum alloy.
- Case finish:
For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.
- Refer to the individual model data sheet for the type of connectors available.



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All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-55° to 100°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Barometric Pressure	100,000 Feet	MIL-STD-202, Method 105, Condition D
Humidity	90% RH, 65°C Units may require bake-out after humidity to restore full performance.	MIL-STD-202, Method 103
Thermal Shock	-65° to 125°C, 5 cycles	MIL-STD-202, Method 107, Condition B
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	100g, 6ms sawtooth, 3 shocks each direction 3 axes (total 18)	MIL-STD-202, Method 213, Condition I