

# Coaxial Directional Coupler

## ZNDC-6-122+

50Ω 6dB 500 to 1200 MHz

### Maximum Ratings

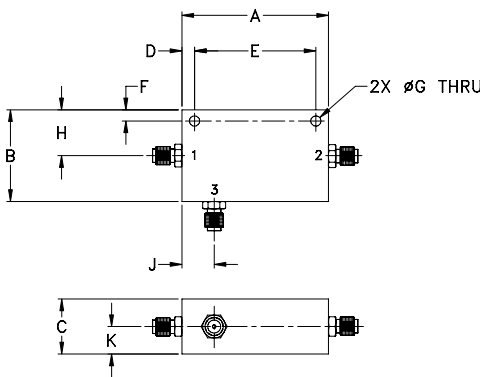
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power input	2W Max.

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

### Coaxial Connections

INPUT	1
OUTPUT	2
COUPLED	3

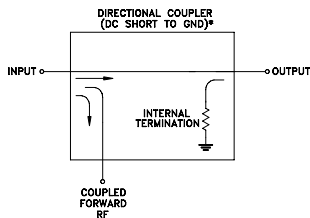
### Outline Drawing



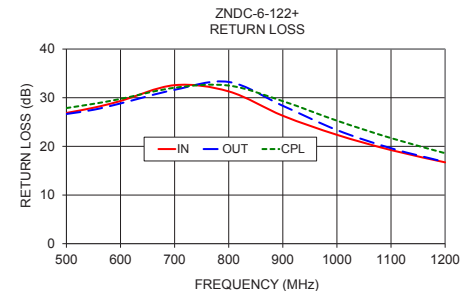
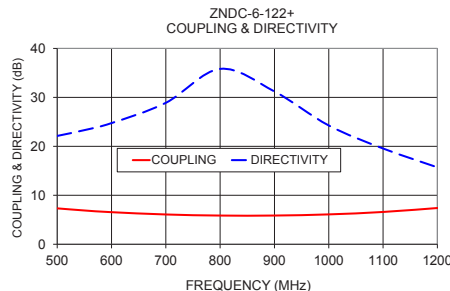
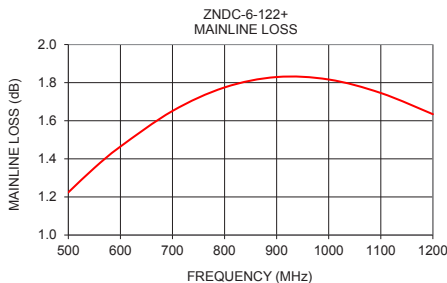
### Outline Dimensions (inch/mm)

A	B	C	D	E	F	
2.00	1.25	0.75	0.17	1.656	0.15	
50.80	31.75	19.05	4.32	42.06	3.81	
G	H	J	K			wt
0.14	0.63	0.44	0.38			grams
3.56	16.00	11.18	9.65			57.0

### Electrical Schematic



\* ELECTRICAL SCHEMATIC IS FOR 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.
- 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](http://www.minicircuits.com/MCLStore/terms.jsp)

### Features

- excellent mainline loss, 0.5 dB typ.
- very good directivity, 20 dB typ.

### Applications

- cellular
- PDC
- CDMA



CASE STYLE: FM587

Connectors Model  
SMA ZNDC-6-122-S+

+RoHS Compliant

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

### Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		500		1200	MHz
Mainline Loss (above theoretical 1.20 dB)	500	—	0.1	0.3	dB
	550	—	0.2	0.6	
	700	—	0.5	0.9	
	1200	—	0.6	0.9	
Nominal Coupling	600-1000	—	6±0.5	—	dB
	500-1200	—	6.5±1	—	
Coupling Flatness(±)	600-1000	—	0.5	0.7	dB
	500-1200	—	0.9	1.2	
Directivity	600-1000	19	25	—	dB
	500-1200	13	18	—	
Return Loss (Input)	500-1200	14	20	—	dB
Return Loss (Output)	500-1200	14	20	—	dB
Return Loss (Coupled)	500-1200	15	20	—	dB

### Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
500	1.22	7.33	22.13	26.87	26.66	27.88
550	1.35	6.90	23.31	27.94	27.52	28.74
600	1.46	6.55	24.75	29.33	28.83	29.75
700	1.65	6.08	28.89	32.58	31.63	32.05
800	1.77	5.86	35.82	31.30	33.24	32.50
900	1.83	5.87	31.21	26.29	28.34	29.29
1000	1.82	6.10	24.26	22.38	23.35	25.28
1100	1.75	6.60	19.56	19.24	19.61	21.70
1200	1.63	7.40	15.71	16.71	16.78	18.59

Mainline Loss = Theoretical Loss + Insertion Loss