

# Coaxial Directional Coupler

50Ω

0.1 to 250 MHz

## ZMDC-30-1+



### 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	3
OUTPUT	2
COUPLED	1

### Features

- excellent mainline loss, 0.5 dB typ.
- rugged shielded case

### Applications

- HF/VHF
- amateur radio
- instrumentation

CASE STYLE: M21

Connectors	Model	Price	Qty.
SMA	ZMDC-30-1+	\$51.95	(1-9)
BRACKET (OPTION "B")		\$5.00	(1+)
BRACKET (OPTION "BR")		\$1.50	(1+)

**+RoHS Compliant**

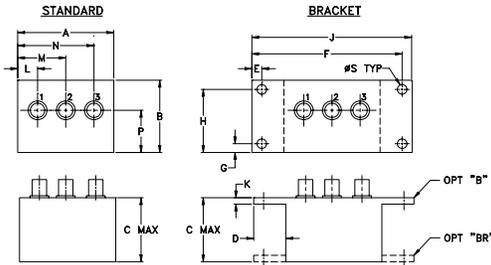
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

### Directional Coupler Electrical Specifications

FREQ. RANGE (MHz)	COUPLING (dB)		MAINLINE LOSS <sup>1</sup> (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.	Max.	Max.		
0.1-250	30±0.5	±0.5	0.4	0.6	0.5	0.8	0.55	0.85	23	18	20	15	17	10	1.5	1.0	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.

### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H
1.50	1.13	1.00	.50	.155	2.345	.138	.987
38.10	28.70	25.40	12.70	3.94	59.56	3.51	25.07

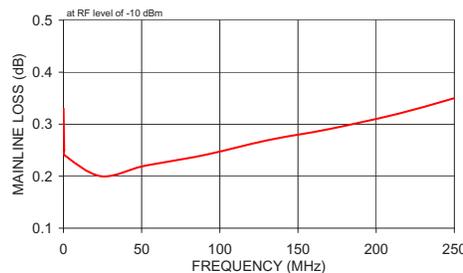
  

J	K	L	M	N	P	S	wt
2.50	.10	.31	.75	1.19	.66	.150	grams
63.50	2.54	7.87	19.05	30.23	16.76	3.81	40.0

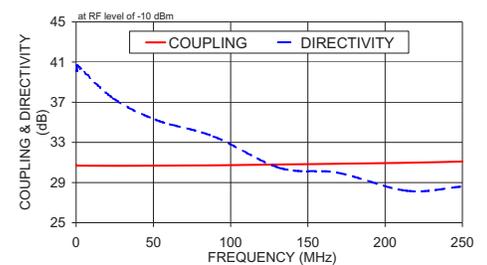
### Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		Cpl
				In	Out	
0.10	0.33	30.77	40.14	14.97	14.57	22.19
0.50	0.25	30.66	40.18	28.11	24.39	22.07
0.90	0.24	30.68	40.64	31.51	26.80	22.06
24.00	0.20	30.67	37.39	37.30	29.40	21.95
52.00	0.22	30.68	35.22	31.72	28.95	21.94
89.00	0.24	30.72	33.59	27.65	27.78	21.97
132.00	0.27	30.80	30.45	24.51	26.44	22.01
169.00	0.29	30.87	29.99	22.53	24.92	22.09
214.00	0.32	30.97	28.18	20.61	23.40	22.22
250.00	0.35	31.09	28.60	19.35	22.21	22.35

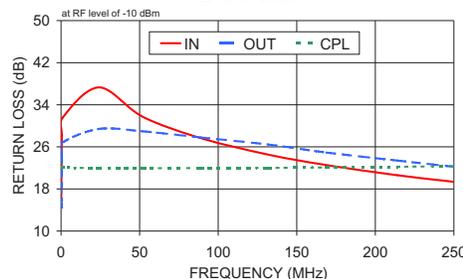
ZMDC-30-1+ MAINLINE LOSS



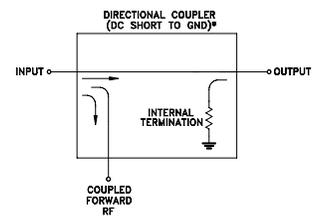
ZMDC-30-1+ COUPLING & DIRECTIVITY



ZMDC-30-1+ RETURN LOSS



### Electrical Schematic



\* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TERMINATIONS 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/WCLStore/terms.jsp](http://www.minicircuits.com/WCLStore/terms.jsp)

