

Directional Coupler

Features

- power handling up to 4 Watt.
- low mainline loss, 0.20 dB typ.
- high directivity, 25 dB typ.
- excellent VSWR, 1.2:1 typ.
- aqueous washable

Applications

- cable tv
- VHF/UHF receivers
- cellular

HT-ADC-20-13+



50Ω 450 to 1000 MHz

Electrical Specifications at 25°C

Parameter	Condition(MHz)	Min.	Typ.	Max.	Unit
Frequency Range		450	-	1000	MHz
Mainline Loss (above theoretical 0.05 dB)	450	-	0.2	0.3	dB
	700		0.2	0.4	
	1000		0.3	0.5	
Coupling	450-1000	19.0	19.7		dB
	450	18.4	20.7	22.2	
	700	17.0	20.0	21.6	
	1000		19.0	21.0	
Coupling Flatness(±)	450-700	-	0.4	0.6	dB
	700-1000		0.5	0.7	
Directivity	450	18	22	-	dB
	700		20		
	1000		18		
Return Loss (Input)	450	20	24	-	dB
	700	19	25		
	1000	16	23		
Return Loss (Output)	450	20	24	-	dB
	700	18	25		
	1000	15	23		
Return Loss (Coupling)	450	18	21	-	dB
	700	17	20		
	1000	14	18		
Input Power	450-1000			4.0	w

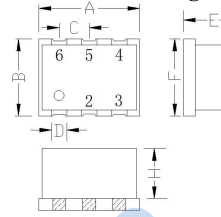
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

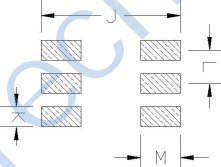
Pin Connections

INPUT	1
OUTPUT	6
COUPLED	3
GROUND	2
50Ω TERM EXTERNAL	4
ISOLATE (DO NOT USE)	5

Outline Drawing



PCB Land Pattern

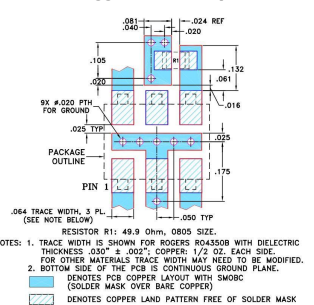


Suggested Layout, Tolerance to be within ±0.5

Outline Dimensions : Unit (mm)

A	8.70	J	8.00
B	6.50	K	1.50
C	2.54	G	5.50
D	1.30	H	4.30
E	5.40	L	2.54
F	6.50	M	2.00
WT	0.5g		

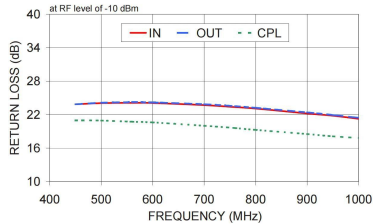
Suggested PCB Layout



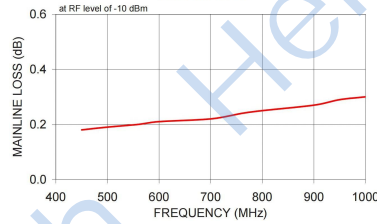
Typical Performance Data

Freq. (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
450	0.18	21.90	27.72	23.86	23.86	20.98
500	0.19	21.87	27.19	24.06	24.14	20.94
560	0.22	21.72	26.86	24.09	24.24	20.73
600	0.23	21.63	26.88	24.00	24.19	20.61
700	0.24	20.38	26.45	23.71	23.87	20.01
760	0.25	20.23	25.91	23.35	23.52	19.59
800	0.28	20.10	25.41	23.09	23.23	19.26
900	0.29	19.88	24.46	22.31	22.40	18.51
950	0.30	19.78	23.94	21.81	21.94	18.12
1000	0.31	19.58	23.40	21.25	21.43	17.85

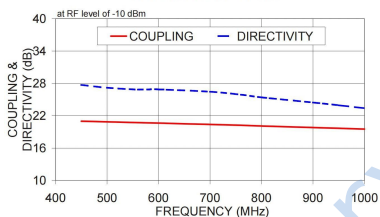
RETURN LOSS



MAINLINE LOSS



COUPLING & DIRECTIVITY



Electrical Schematic

