

# Surface Mount Directional Coupler

## JDC-20-5+ JDC-20-5

50Ω 50 to 1500 MHz



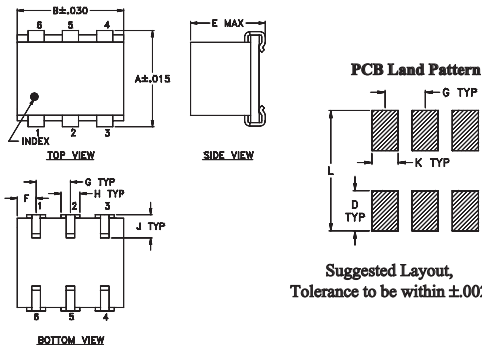
### Maximum Ratings

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

### Pin Connections

INPUT	1
OUTPUT	6
COUPLED	3
GROUND	2,5
50 OHM TERM EXTERNAL	4

### Outline Drawing



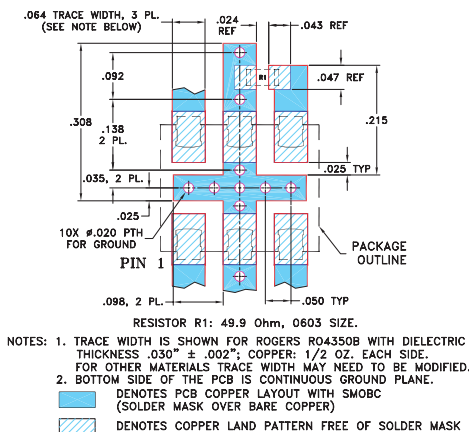
### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.280	.310	--	.100	.225	.055	.100
7.11	7.87	--	2.54	5.72	1.40	2.54

H	J	K	L	wt
.047	.065	.065	.300	grams
1.19	1.65	1.65	7.62	0.45

### Demo Board MCL P/N: TB-176 Suggested PCB Layout (PL-041)



### Features

- wideband, 50 to 1500 MHz
- low mainline loss, 0.5 dB typ.
- excellent solderability

### Applications

- VHF/UHF
- satellite distribution
- cellular
- ISM/GSM

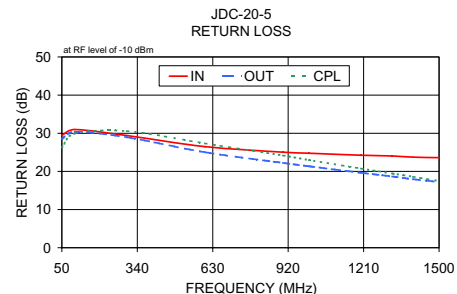
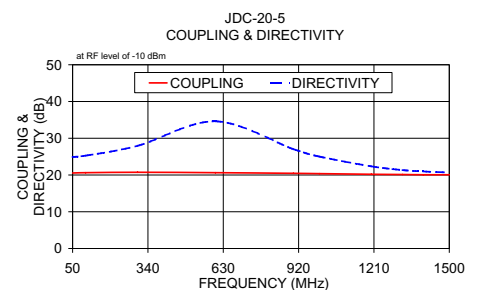
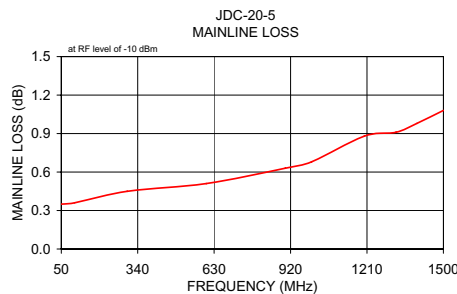
### Directional Coupler Electrical Specifications

FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS <sup>1</sup> (dB)						DIRECTIVITY (dB)						VSWR (:1)	POWER INPUT, W			
	Nom.	Flatness	L		M		U		L		M		U			Typ.	Max.	Typ.	Max.
f <sub>L</sub> -f <sub>U</sub>			Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.	Max.
50-1500	20.5±0.5	±0.75	0.4	0.8	0.5	0.9	1.0	1.5	25	18	22	16	20	13	1.2	0.5	0.5		

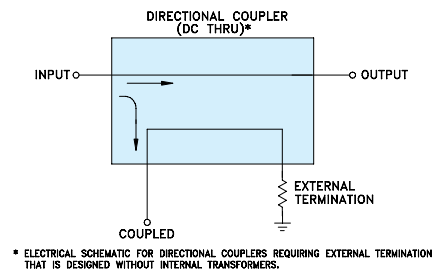
L = 50-500 MHz M = 500-750 MHz U = 750-1500 MHz  
 1. Mainline loss includes theoretical power loss at coupled port.

### Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)		Return Loss (dB)	
			In	Out	Out	Cpl
50.00	0.35	20.55	24.91	29.45	28.54	26.32
100.00	0.36	20.62	25.28	30.98	30.40	29.94
300.00	0.45	20.74	27.95	29.40	28.96	30.58
600.00	0.51	20.63	34.60	26.50	25.05	27.36
900.00	0.63	20.46	27.05	25.05	22.25	24.18
1000.00	0.68	20.37	25.02	24.77	21.36	22.99
1200.00	0.88	20.20	22.37	24.24	19.64	20.77
1320.00	0.91	20.12	21.35	24.06	18.68	19.46
1400.00	0.98	20.06	20.97	23.74	17.96	18.59
1500.00	1.08	20.07	20.69	23.62	17.22	17.51



### Electrical Schematic



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