

# Surface Mount Directional Coupler

50Ω 5 to 400 MHz

JDC-6-1+  
JDC-6-1



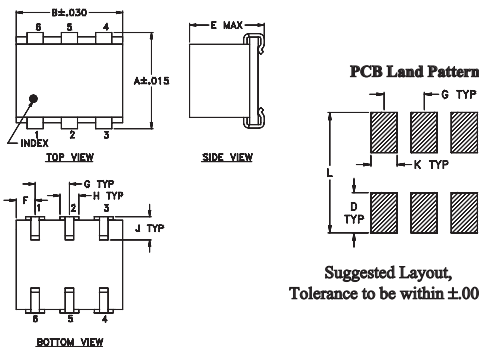
## Maximum Ratings

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
ISOLATE (DO NOT USE)	4

## Outline Drawing



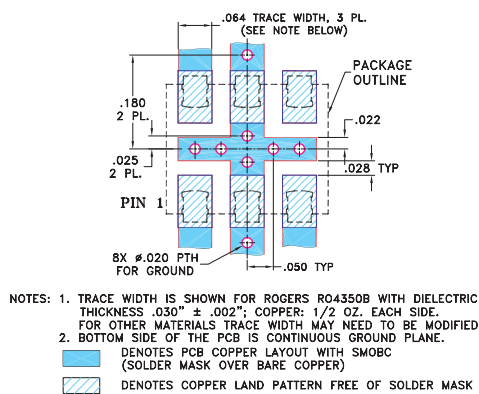
## Outline Dimensions (inch/mm)

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-185 Suggested PCB Layout (PL-046)



## Features

- wideband, 5 to 400 MHz
- low mainline loss, 1.7 dB typ.
- high directivity, 25 dB typ.
- good VSWR, 1.25 typ.
- excellent solderability

## Applications

- communications
- VHF/UHF

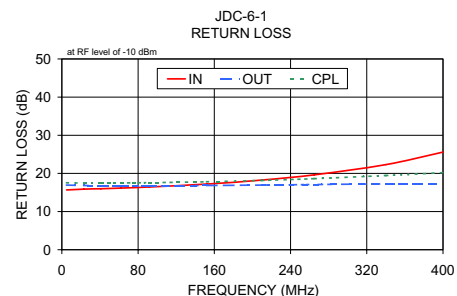
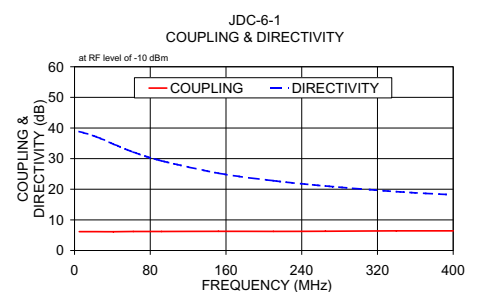
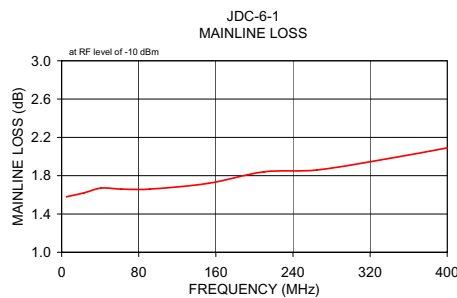
## Directional Coupler Electrical Specifications

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.	Max.
f <sub>L</sub> -f <sub>U</sub>			Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.	Max.	
5-400	6.5±0.5	±0.5	1.6	2.0	1.7	2.4	2.0	2.4	35	30	25	20	20	15	1.25	0.5	0.5	

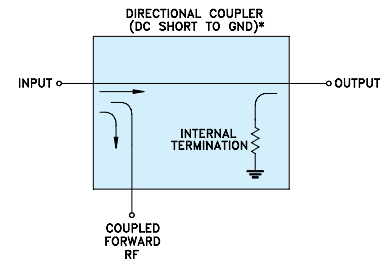
L = 5-40 MHz M = 40-200 MHz U = 200-400 MHz  
1. Mainline loss includes theoretical power loss at coupled port.

## Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
5.00	1.58	6.15	38.87	15.68	16.95	17.56
23.00	1.62	6.15	37.15	15.87	16.85	17.48
41.00	1.67	6.14	34.77	15.99	16.83	17.50
62.00	1.66	6.20	32.17	16.15	16.81	17.52
92.00	1.66	6.22	29.29	16.44	16.80	17.58
152.00	1.72	6.27	25.25	17.21	16.85	17.82
210.00	1.84	6.24	22.81	18.27	16.96	18.17
265.00	1.86	6.29	21.09	19.62	17.11	18.64
340.00	1.98	6.42	19.22	22.31	17.25	19.47
400.00	2.09	6.41	18.19	25.59	17.25	20.20



## Electrical Schematic



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

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