

# Surface Mount Directional Coupler

## JDC-20-2+ JDC-20-2

50Ω      400 to 900 MHz



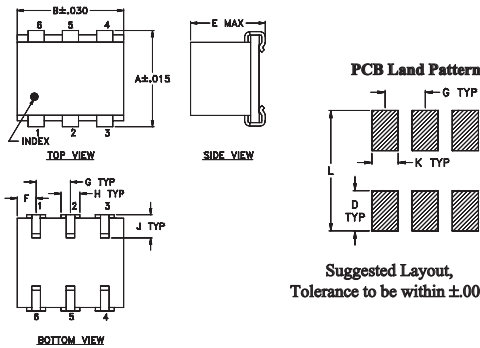
### Maximum Ratings

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
ISOLATE (DO NOT USE)	4

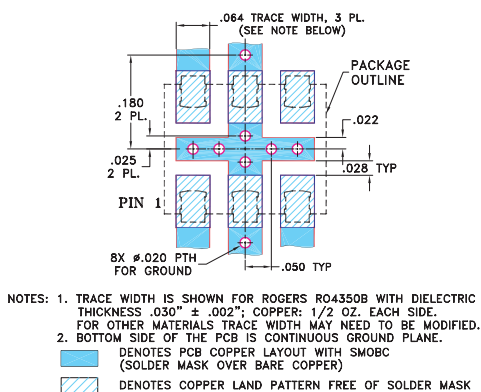
### Outline Drawing



### 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

- low mainline loss, 0.2 dB typ.
- good VSWR, 1.15:1
- excellent solderability

### Applications

- communications
- level detecting
- signal sampling
- reflective power measurements
- cellular

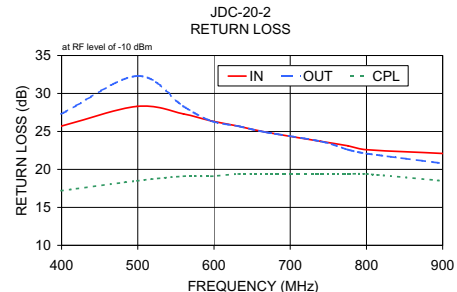
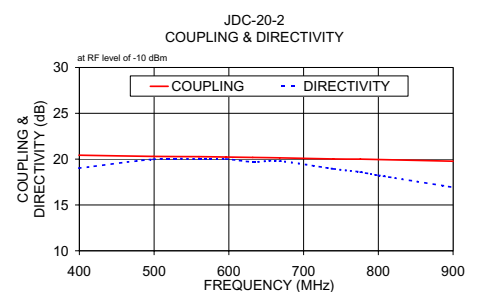
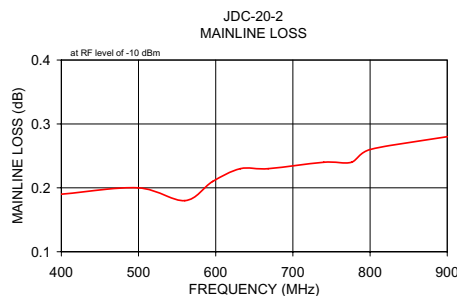
### Directional Coupler Electrical Specifications

FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS <sup>1</sup> (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT, W	
	Nom.	Flatness	Typ.	Max.	Typ.	Min.		Typ.	L Max.
f <sub>L</sub> -f <sub>U</sub>									
400-900	20.5±1.0	±1.0	0.2	0.6	19	13	1.15	2.0	2.0

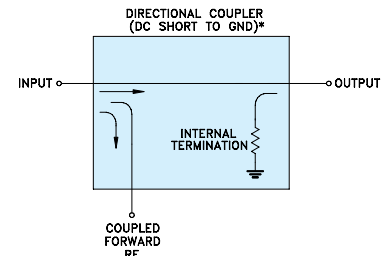
1. Mainline loss includes theoretical power loss at coupled port.

### Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
399.50	0.19	20.43	19.02	25.70	27.30	17.20
499.00	0.20	20.30	19.98	28.30	32.30	18.50
560.00	0.18	20.27	20.02	27.30	28.30	19.10
596.00	0.21	20.23	20.02	26.40	26.40	19.10
632.00	0.23	20.18	19.69	25.70	25.70	19.40
668.00	0.23	20.14	19.79	24.90	24.90	19.40
740.00	0.24	20.02	18.94	23.70	23.70	19.40
776.00	0.24	20.00	18.59	23.10	22.60	19.40
800.00	0.26	19.96	18.23	22.60	22.10	19.40
900.00	0.28	19.77	16.93	22.10	20.80	18.50



### Electrical Schematic



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

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