

# Surface Mount Directional Coupler

50Ω 50 to 750 MHz

## JDC-20-1W+ JDC-20-1W



Generic photo used for illustration purposes only  
CASE STYLE: BH292

**+RoHS Compliant**

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

### Maximum Ratings

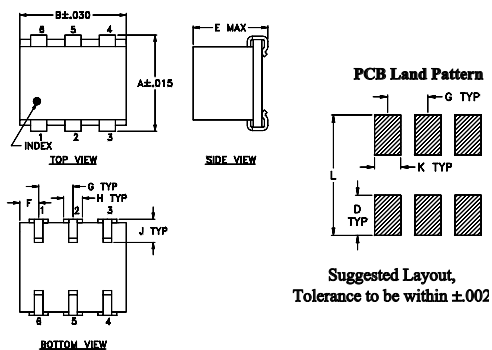
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

Permanent damage may occur if any of these limits are exceeded.

### Pin Connections

INPUT	1
OUTPUT	6
COUPLED	3
GROUND	2,5
ISOLATE (DO NOT USE)	4

### Outline Drawing



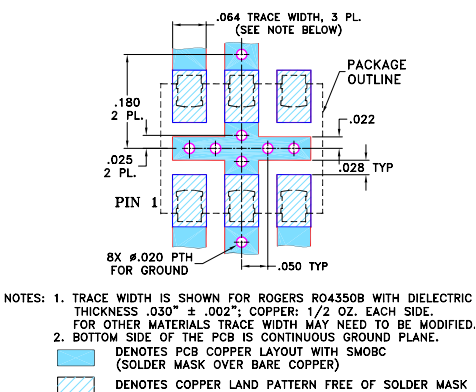
### Outline Dimensions (inch/mm)

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, 50 to 750 MHz
- low mainline loss, 0.5 dB typ.
- excellent solderability

### Applications

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

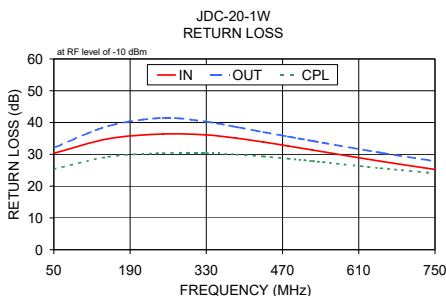
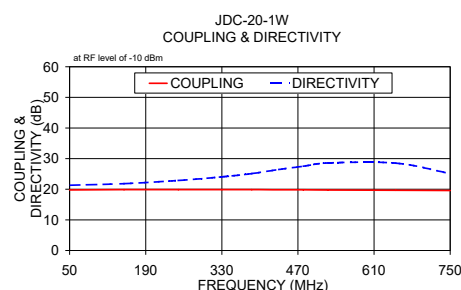
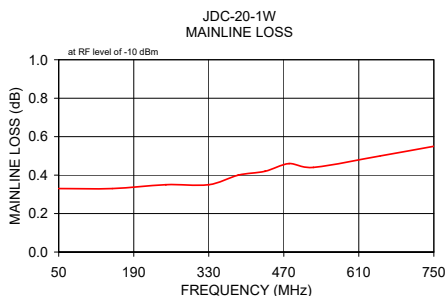
### Directional Coupler Electrical Specifications

FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS <sup>1</sup> (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT, W
	Nom.	Flatness	Typ.	Max.	Typ.	Min.		
f <sub>L</sub> -f <sub>U</sub>								
50-750	19.5±0.5	±0.5	0.5	0.9	22	15	1.2	0.5

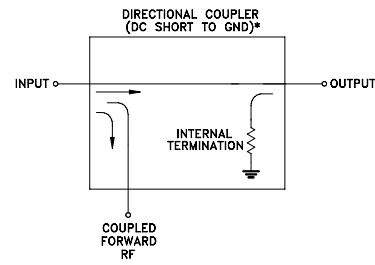
1. Mainline loss includes theoretical power loss at coupled port.

### Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
50.00	0.33	19.77	21.32	30.32	32.06	25.34
150.00	0.33	19.87	21.83	34.90	38.90	29.25
250.00	0.35	19.87	22.89	36.40	41.45	30.37
330.00	0.35	19.87	24.06	36.11	40.25	30.40
385.00	0.40	19.87	25.12	35.07	38.62	29.96
435.00	0.42	19.82	26.45	33.87	37.00	29.35
480.00	0.46	19.83	27.52	32.62	35.61	28.65
525.00	0.44	19.76	28.59	31.36	34.22	27.88
650.00	0.50	19.68	28.53	27.83	30.53	25.66
750.00	0.55	19.59	25.15	25.26	27.85	24.06



### Electrical Schematic



\* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) 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.
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[www.minicircuits.com](http://www.minicircuits.com) P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

REV. E  
M151107  
ED-4386/3  
JDC-20-1W  
WZ/TD/CP/AM  
200413