

Surface Mount Directional Coupler

75Ω 2 to 250 MHz

JDC-20-3-75+
JDC-20-3-75

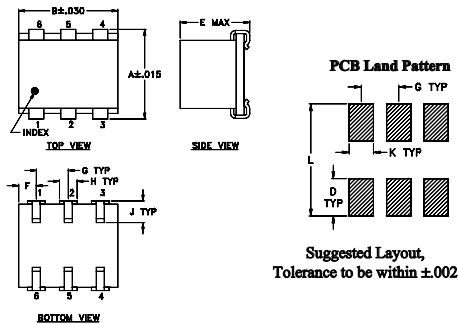
Maximum Ratings

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

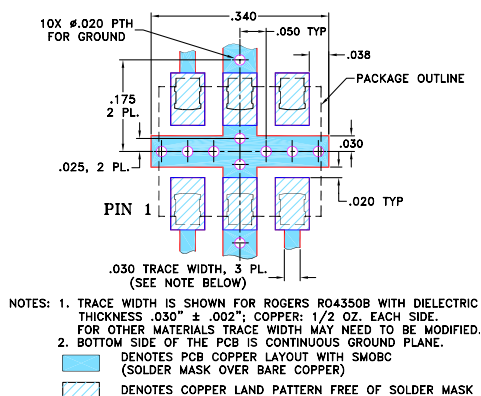
Outline Drawing



Outline Dimensions (inch mm)

A	B	C	D	E	F	G	H	J	K	L	wt
.280	.310	--	.100	.225	.055	.100	.047	.065	.065	.300	grams
7.11	7.87	--	2.54	5.72	1.40	2.54	1.19	1.65	1.65	7.62	0.45

Demo Board MCL P/N: TB-33 Suggested PCB Layout (PL-044)



Features

- low mainline loss, 0.3 dB typ.
- high directivity, 30 dB typ.
- excellent solderability

Applications

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



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

Directional Coupler Electrical Specifications

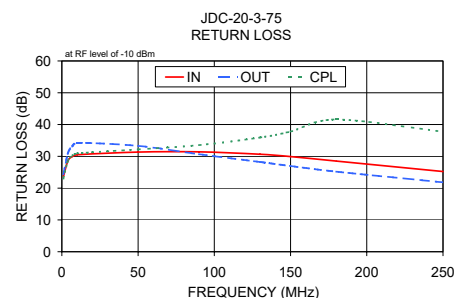
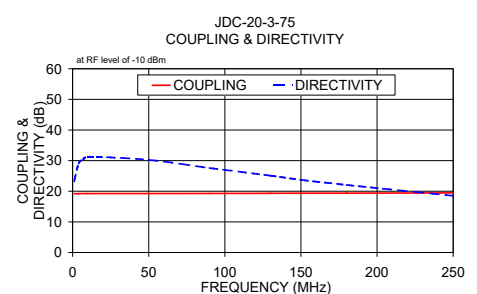
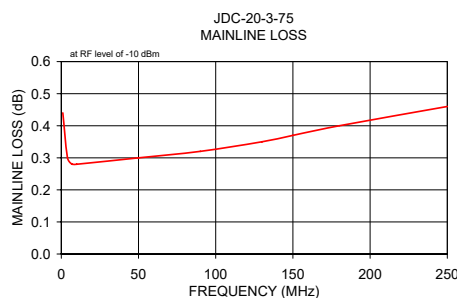
FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)						DIRECTIVITY (dB)						VSWR (:1)	POWER INPUT, W	
			L		M		U		L		M		U				
	f _L -f _U	Nom.	Flatness	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.
2-250	19.2±0.5	±0.5	0.4	0.8	0.3	0.7	0.4	0.7	24	16	30	20	20	15	1.1	0.5	1.0

L = 2-20 MHz M = 20-125 MHz U = 125-250 MHz

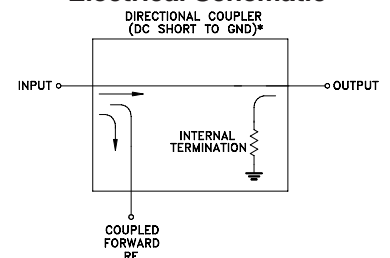
1. Mainline loss includes theoretical power loss at coupled port.

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
1.00	0.44	19.22	23.26	23.55	24.40	23.02
4.00	0.30	19.23	29.11	28.64	31.07	28.66
7.00	0.28	19.24	30.46	29.97	33.28	30.26
10.00	0.28	19.24	31.30	30.50	34.28	30.94
50.00	0.30	19.26	30.27	31.34	33.32	32.19
90.00	0.32	19.28	27.59	31.42	30.68	33.55
130.00	0.35	19.32	25.09	30.66	28.22	35.94
150.00	0.37	19.35	23.75	29.92	26.97	37.80
180.00	0.40	19.38	22.06	28.50	25.21	41.60
250.00	0.46	19.45	18.52	25.22	21.84	37.78



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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