

High Power Directional Coupler

50Ω 30 to 500 MHz

JYDC-7-1HP+ JYDC-7-1HP



Generic photo used for illustration purposes only
CASE STYLE: BJ1051

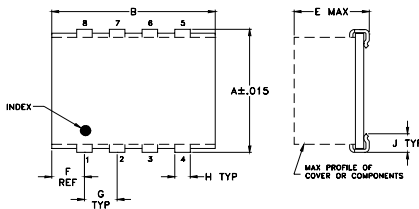
Maximum Ratings

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.	

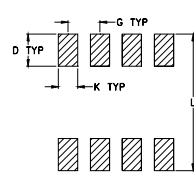
Pin Connections

INPUT	1
OUTPUT	8
COUPLED	3
GROUND	2,7
50Ω TERM EXTERNAL	6
ISOLATE (DO NOT USE)	4,5

Outline Drawing



PCB Land Pattern

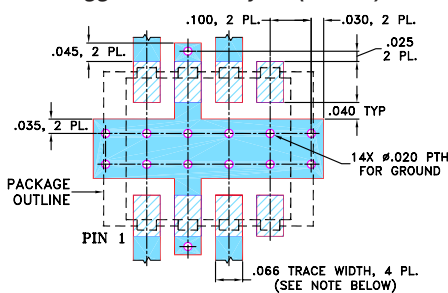


Suggested Layout,
Tolerance to be within ±0.02

Outline Dimensions (inch/mm)

	A	B	C	D	E	F	G	
	.395	.500	--	.100	.230	.100	.100	
	10.03	12.70	--	2.54	5.84	2.54	2.54	
	H	J	K	L				wt
	.047	.065	.065	.425				grams
	1.19	1.65	1.65	10.80				0.71

Demo Board MCL P/N: TB-282 Suggested PCB Layout (PL-157)



- NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.030" ± 0.002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
■ DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
■ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Notes

- A. 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.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/WCLStore/terms.jsp

Features

- high power handling, 5 watts
- low mainline loss, 1.3 dB typ.
- excellent VSWR, 1.25:1 typ.
- good flatness, ±0.1 dB typ.
- protected by US Patent 6,140,887

Applications

- VHF/UHF receivers
- cellular

Directional Coupler Electrical Specifications

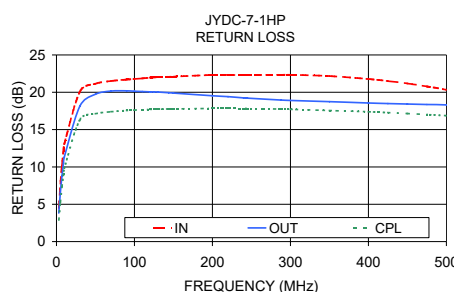
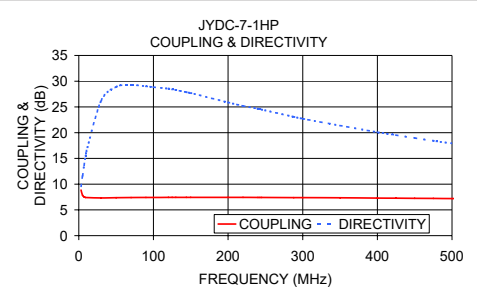
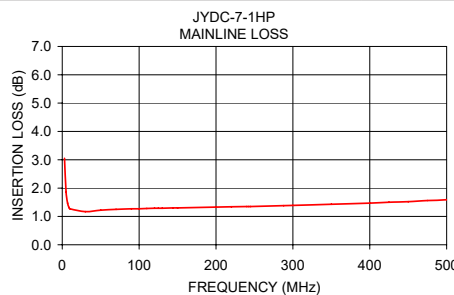
FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)				DIRECTIVITY (dB)				VSWR (:1)	POWER INPUT, W		
	Nom.	Max. Flatness	L		U		L		U			Typ.	Max.	Max.
			Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.				
30-500	7.3±0.4	±0.2	1.3	1.6	1.4	1.9	30	22	20	15	1.25	5.0	5.0	

L = 30-200 MHz U = 200-500 MHz

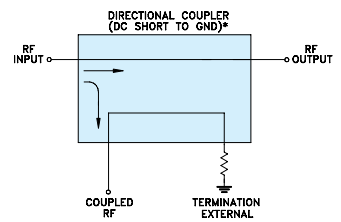
1. Mainline loss includes theoretical power loss at coupled port.

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
30.00	1.17	7.33	26.24	20.09	18.15	16.30
100.00	1.27	7.42	28.87	21.78	20.14	17.62
150.00	1.30	7.44	27.70	22.10	19.90	17.78
200.00	1.33	7.44	25.89	22.33	19.53	17.84
245.00	1.35	7.42	24.50	22.30	19.21	17.83
300.00	1.39	7.39	22.71	22.35	18.90	17.72
350.00	1.43	7.35	21.38	22.18	18.74	17.56
400.00	1.47	7.30	20.11	21.78	18.56	17.39
450.00	1.52	7.25	18.98	21.18	18.42	17.16
500.00	1.59	7.20	17.94	20.33	18.31	16.87



Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) AND EXTERNAL TERMINATION.



www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

REV. D
M157137
ED-11474
JYDC-7-1HP
WZ/TD/CP/AM
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