

High Power Bi-Directional Coupler

50Ω 16dB Coupling DC Pass 1750 to 2700 MHz

SYBD-16-272HP+



CASE STYLE: JB1233

PRICE: \$29.95 ea. QTY (1-9)

+RoHS Compliant

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

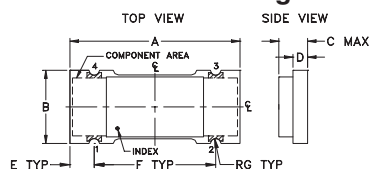
Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
DC Current	2A
Permanent damage may occur if any of these limits are exceeded.	

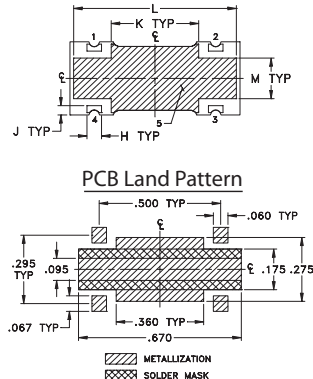
Pin Connections

INPUT	1
OUTPUT	2
COUPLED (forward)	4
COUPLED (reverse)	3
GROUND	5

Outline Drawing



PCB Land Pattern

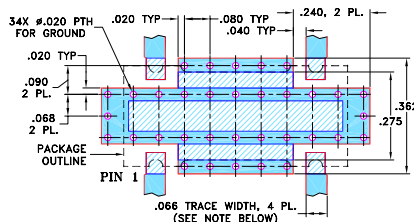


Suggested Layout,
Tolerance to be within ±0.02

Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.70	.32	.13	.060	.100	.500	.022
17.78	8.13	3.30	1.52	2.54	12.70	0.56
H	J	K	L	M	wt	
.060	.040	.360	.670	.175	grams	
1.52	1.02	9.14	17.02	4.45	0.68	

Demo Board MCL P/N: TB-398 Suggested PCB Layout (PL-260)



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .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

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

Features

- high power handling, 25 watts max.
- low mainline loss, 0.2 dB typ.
- excellent VSWR, 1.2:1 typ.
- excellent directivity, 30 dB typ.
- wideband frequency, 1750 to 2700 MHz

Applications

- PCS
- ISM
- cable TV delay
- defense communications
- federal communications

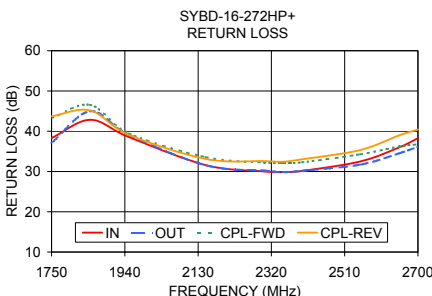
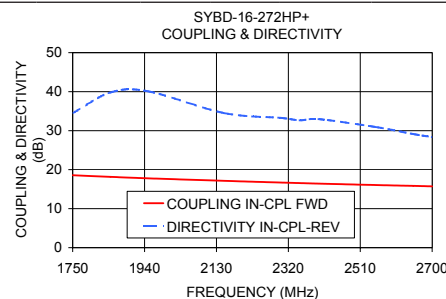
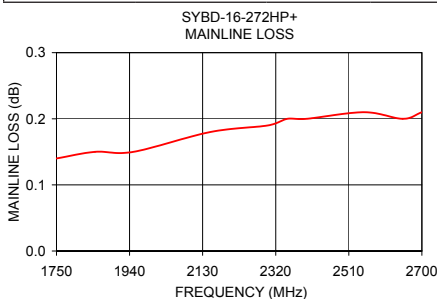
Bi-Directional Coupler Electrical Specifications

FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT (W)
	Nom.	Flatness	Typ.	Max.	Typ.	Min.		
1750-2700			0.2	0.5	30	17	1.20	
1750-1950	18.0±0.7	±0.5	0.13	0.4	30	18	1.10	25
1950-2300	17.1±0.8	±0.7	0.18	0.45	30	18	1.15	25
2300-2700	16.1±0.8	±0.7	0.20	0.50	30	17	1.20	25

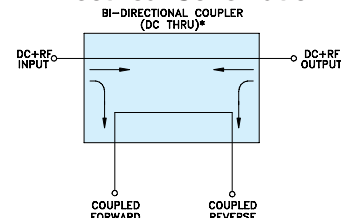
1. Mainline loss includes theoretical power loss at coupled port.

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB)	Coupling (dB)		Directivity (dB)		Return Loss (dB)			
	In-Out	In-Cpl Fwd	Out-Cpl Rev	Out-Cpl Fwd	In-Cpl Rev	In	Out	Cpl Fwd	Cpl Rev
1750.00	0.14	18.58	18.59	30.54	34.47	38.33	37.11	43.29	43.72
1850.00	0.15	18.15	18.19	33.65	39.80	42.84	44.96	46.54	45.18
1950.00	0.15	17.78	17.81	33.89	40.07	38.58	39.14	39.48	39.16
2150.00	0.18	17.13	17.16	33.20	34.51	31.58	31.55	33.58	33.11
2300.00	0.19	16.70	16.72	33.54	33.29	30.01	30.26	32.24	32.59
2350.00	0.20	16.57	16.59	33.69	32.65	29.85	29.82	32.08	32.43
2400.00	0.20	16.43	16.45	34.28	32.96	30.16	30.17	32.27	33.03
2550.00	0.21	16.07	16.08	33.84	30.94	32.50	31.70	34.27	35.32
2650.00	0.20	15.84	15.84	32.36	29.14	35.95	34.48	36.17	38.93
2700.00	0.21	15.73	15.74	31.11	28.33	38.29	36.15	36.76	40.44



Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR BI-DIRECTIONAL COUPLER WITHOUT INTERNAL TRANSFORMERS AND RESISTORS.

For detailed performance specs & shipping online see web site

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ISO 9001 ISO 14001 AS 9100 CERTIFIED

IF/RF MICROWAVE COMPONENTS

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