

High Power Bi-Directional Coupler

50Ω 28dB Coupling DC Pass 400 to 610 MHz

SYBD-28-62HP+



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

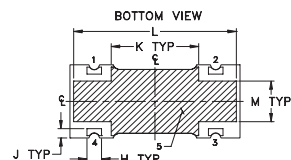
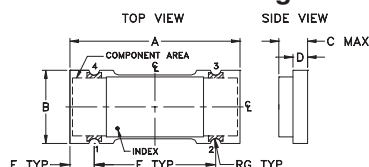
Maximum Ratings

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.	

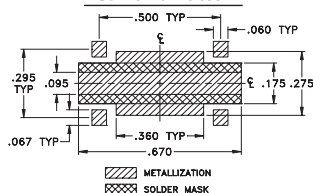
Pin Connections

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

Outline Drawing



PCB Land Pattern

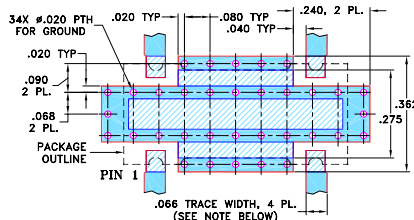


Suggested Layout,
Tolerance to be within ±.002

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, 100 watts max.
- low mainline loss, 0.03 dB typ.
- excellent VSWR, 1.10:1 typ.
- excellent directivity, 27 dB typ.

Applications

- VHF/UHF
- instrumentations
- defense communications
- federal communications

Bi-Directional Coupler Electrical Specifications

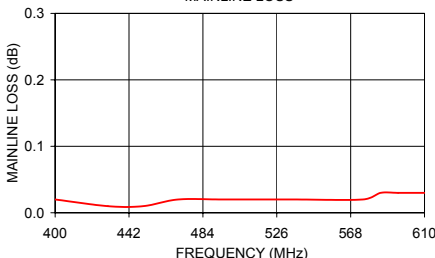
FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT (W)
$f_L - f_U$	Nom.	Flatness	Typ.	Max.	Typ.	Min.	Typ.	Max.
400-610			0.03	0.2	27	21	1.10	—
400-470	29.8±0.8	±1.0	0.03	0.2	27	21	1.10	100
470-610	27.8±0.8	±1.5	0.03	0.2	28	21	1.10	100

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

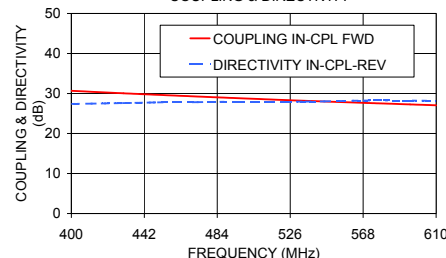
Typical Performance Data

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
400.00	0.02	30.68	30.71	27.55	27.39	54.15	62.25	47.51	44.04
430.00	0.01	30.05	30.07	27.61	27.60	50.62	54.98	45.94	44.97
450.00	0.01	29.66	29.68	27.61	27.78	49.31	52.00	45.50	45.33
470.00	0.02	29.29	29.31	27.74	27.82	48.07	49.88	44.97	44.14
495.00	0.02	28.85	28.87	27.91	27.95	45.71	47.55	44.63	42.66
535.00	0.02	28.17	28.19	28.10	27.98	43.36	44.52	43.50	42.49
575.00	0.02	27.56	27.58	28.17	28.28	41.19	41.75	41.30	41.49
585.00	0.03	27.42	27.44	28.20	28.25	40.82	41.34	40.86	40.67
595.00	0.03	27.27	27.29	28.17	28.23	40.38	40.93	40.28	40.05
610.00	0.03	27.06	27.08	28.14	28.17	39.73	40.16	39.82	39.47

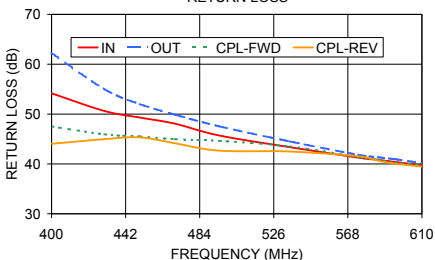
SYBD-28-62HP+
MAINLINE LOSS



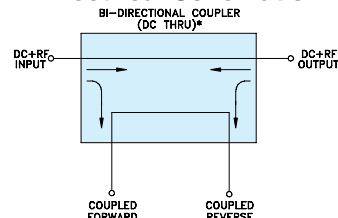
SYBD-28-62HP+
COUPLING & DIRECTIVITY



SYBD-28-62HP+
RETURN LOSS



Electrical Schematic



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

For detailed performance specs & shipping online see web site

Mini-Circuits®
ISO 9001 ISO 14001 AS 9100 CERTIFIED

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IF/RF MICROWAVE COMPONENTS

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