

High Power Bi-Directional Coupler

SYBD-28-62HP+

50Ω 28dB Coupling DC Pass 400 to 610 MHz



Generic photo used for illustration purposes only

CASE STYLE: JB1233

+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

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

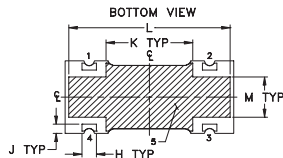
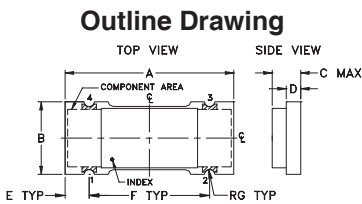
Bi-Directional Coupler Electrical Specifications

FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT (W)
	Nom.	Flatness	Typ.	Max.	Typ.	Min.		
f_L - f_U								
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

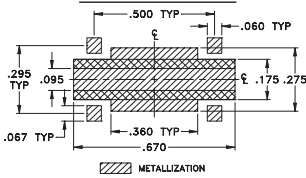
1. Mainline loss includes theoretical power loss at coupled port.

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



PCB Land Pattern



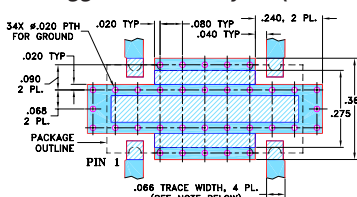
Suggested Layout,
Tolerance to be within ±0.02

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

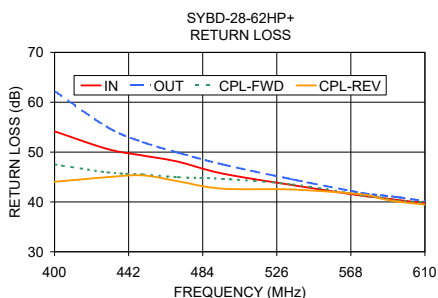
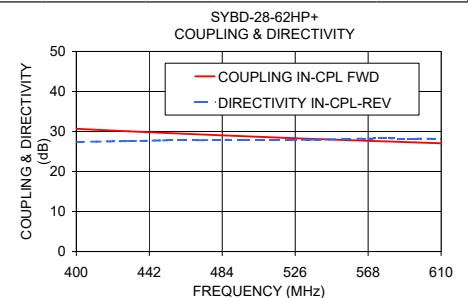
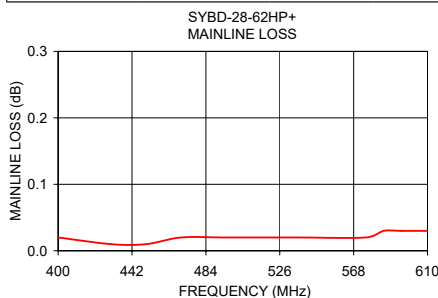
Suggested PCB Layout (PL-260)



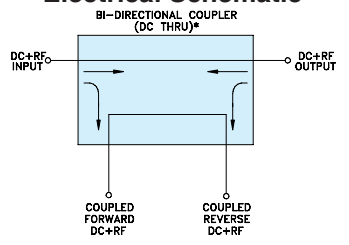
- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
■ DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
■ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

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.
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Electrical Schematic



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



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