

# High Power Bi-Directional Coupler

## SYBD-26-62HP+

50Ω 26dB Coupling DC Pass 400 to 610 MHz



CASE STYLE: JB1233  
PRICE: \$29.95 ea. QTY (1-9)

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

The + suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

### Maximum Ratings

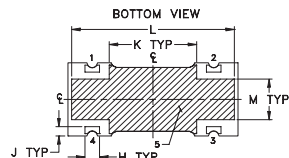
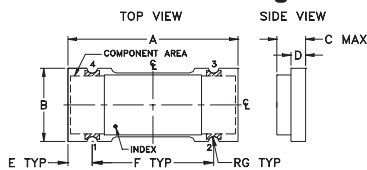
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
DC Current	2A

Permanent damage may occur if any of these limits are exceeded.

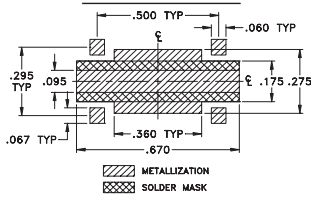
### Pin Connections

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

### Outline Drawing



### PCB Land Pattern

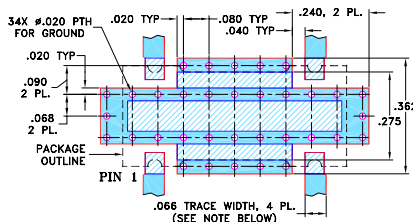


Suggested Layout,  
Tolerance to be within ±.002

### 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, 150 watts at room temp.
- low mainline loss, 0.08 dB typ.
- excellent VSWR, 1.05:1 typ.
- excellent directivity, 24 dB typ.

### Applications

- VHF/UHF
- instrumentation
- defense communications
- federal communications

### Bi-Directional Coupler Electrical Specifications

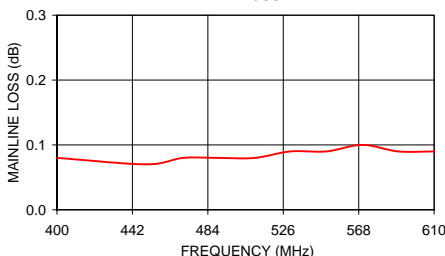
FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS <sup>1</sup> (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT (W)
	Nom.	Flatness	Typ.	Max.	Typ.	Min.		
$f_L$ - $f_U$								
400-610			0.08	0.25	24	20	1.05	
400-470	27.2±0.8	±0.9	0.08	0.25	24	20	1.05	100
470-610	25.3±0.8	±1.3	0.09	0.25	24	20	1.05	100

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

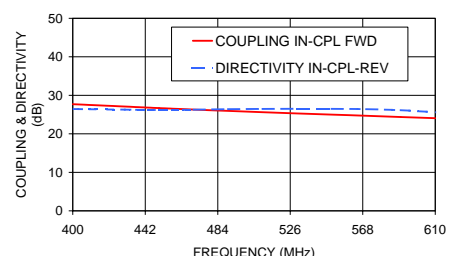
### Typical Performance Data

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	0.08	27.70	27.64	25.00	26.44	37.24	34.60	36.38	37.33
450.00	0.07	26.68	26.63	24.88	26.18	36.06	33.11	35.26	35.74
470.00	0.08	26.31	26.26	24.88	26.27	35.65	32.64	34.93	35.34
490.00	0.08	25.96	25.90	24.87	26.41	35.24	32.27	34.49	34.76
510.00	0.08	25.62	25.56	24.79	26.46	34.97	31.96	34.02	34.29
530.00	0.09	25.30	25.23	24.79	26.50	34.41	31.54	33.40	33.78
550.00	0.09	24.98	24.91	24.81	26.49	33.74	31.13	32.91	33.48
570.00	0.10	24.68	24.59	24.84	26.40	33.28	30.75	32.58	33.26
590.00	0.09	24.36	24.27	24.56	26.14	32.96	30.37	32.24	32.86
610.00	0.09	24.06	23.99	24.24	25.60	32.84	30.08	31.94	32.40

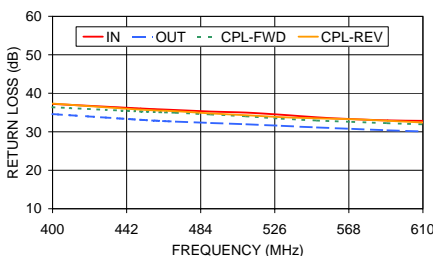
SYBD-26-62HP+  
MAINLINE LOSS



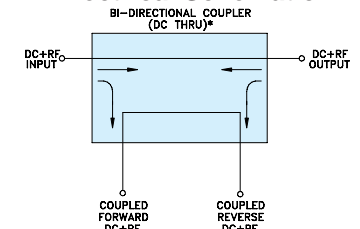
SYBD-26-62HP+  
COUPLING & DIRECTIVITY



SYBD-26-62HP+  
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

The Design Engineers Search Engine



Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

IF/RF MICROWAVE COMPONENTS

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet 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/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp).

REV. A  
M119986  
ED-12762/7  
SYBD-26-62HP+  
WZ/QL/AM  
090911