

High Power Bi-Directional Coupler

SYBD-20-142HP+

50Ω 20dB Coupling DC Pass 960 to 1400 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

Features

- high power handling, 50 watts max.
- low mainline loss, 0.09 dB typ.
- excellent VSWR, 1.15:1 typ.
- excellent directivity, 26 dB typ.
- wideband frequency, 960 to 1400 MHz

Applications

- GPS
- defense communications

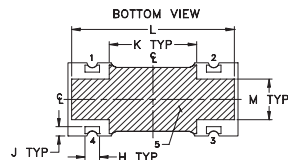
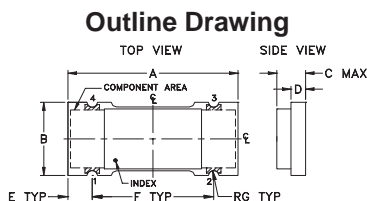
Bi-Directional Coupler Electrical Specifications

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								
960-1400			0.09	0.25	26	18	1.10	—
960-1240	21.8±0.8	±1.3	0.07	0.25	27	18	1.10	50
1240-1400	20.3±0.8	±0.7	0.09	0.25	26	18	1.10	50

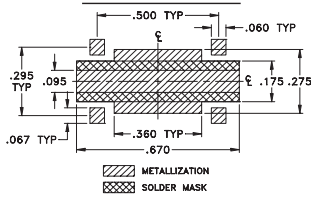
1. Mainline loss includes theoretical power loss at coupled port.

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
960.00	0.05	23.23	23.27	27.25	27.84	29.59	29.11	32.48	32.30
1000.00	0.04	22.89	22.93	27.22	27.98	29.09	28.66	32.18	32.23
1040.00	0.05	22.58	22.61	27.13	27.63	28.73	28.19	31.97	31.64
1080.00	0.05	22.27	22.31	26.90	27.78	28.55	27.97	31.41	31.51
1120.00	0.06	21.98	22.02	26.81	27.80	28.28	27.71	31.27	31.42
1180.00	0.06	21.56	21.59	26.95	27.69	28.08	27.53	31.15	31.23
1240.00	0.07	21.17	21.21	26.88	27.67	27.92	27.38	31.02	31.07
1280.00	0.08	20.93	20.97	26.98	27.88	27.94	27.37	31.07	31.30
1360.00	0.08	20.44	20.48	27.35	28.43	28.19	27.64	31.82	31.80
1400.00	0.09	20.22	20.26	27.67	28.84	28.48	27.90	32.21	32.39



PCB Land Pattern

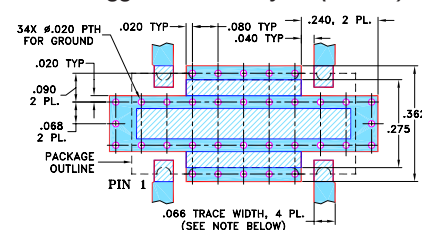


Outline Dimensions (inch/mm)

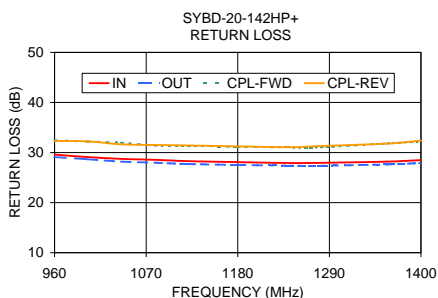
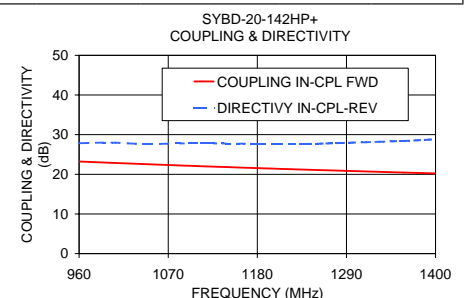
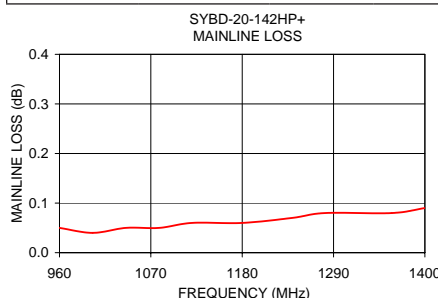
A	B	C	D	E	F	G
.70	.32	.13	.060	.100	.500	.022
17.78	8.13	3.30	1.52	2.54	12.70	0.56
H	J	K	L	M	wt	
.060	.040	.360	.670	.175	grams	
1.52	1.02	9.14	17.02	4.45	0.68	

Demo Board MCL P/N: TB-398

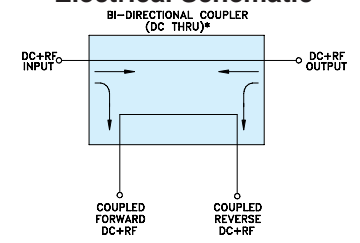
Suggested PCB Layout (PL-260)



- 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



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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