

Bi-Directional Coupler

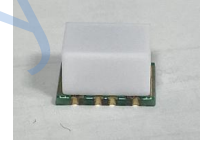
Features

- low mainline loss, 0.12 dB typ.
- excellent VSWR, 1.12:1 typ.
- high directivity, 24 dB typ.
- high power, 50W max with output load VSWR 2.0 max.
- high power, 30W max. with output open or short

Applications

- VHF/UHF
- signal monitoring
- communications
- military mobile

HT-SYBDC-26-52VHP+



50Ω 26 dB Coupling 30 to 540 MHz 50 Watt

Electrical Specifications at 25°C

Parameter	Condition (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		30	-	540	MHz
Mainline Loss ¹	30-50 50-540	-	0.25 0.12	0.45 0.25	
Nominal Coupling	30-540	-	26±1.0	-	dB
Coupling Flatness (±)	30-260 260-540	-	0.4 0.7	0.6 1.0	dB
Directivity	30-50 50-540	-	24 20	-	dB
Return Loss (Input)	30-100 100-540	17 18	15 25	-	dB
Return Loss (Output)	30-100 100-540	12 18	15 25	-	dB
Return Loss (Coupling)	30-100 100-540	12 18	15 25	-	dB
Input Power ²	30-540	-	-	50	W

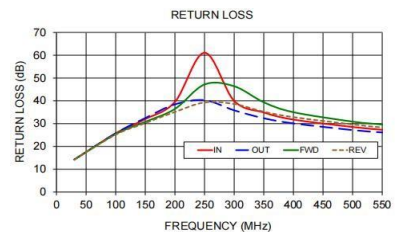
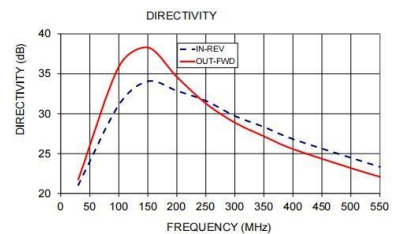
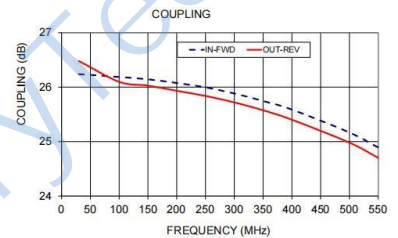
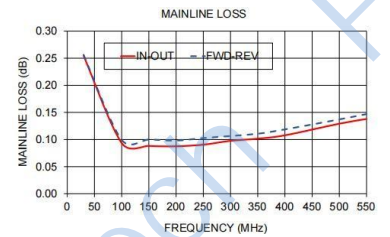
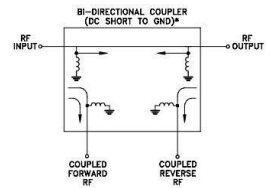
1. Mainline Loss includes theoretical power loss at coupled port.
2. At 25°C case temperature. Derate to 25W linearly at 85°C case temperature.

Maximum Ratings

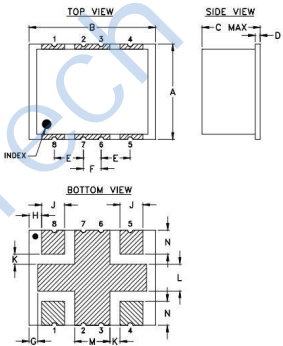
*Operating Temperature, Case -40°C to 65°C
Storage Temperature -55°C to 100°C

*Case temperature is defined as temperature on ground leads.
Permanent damage may occur if any of these limits are exceeded.

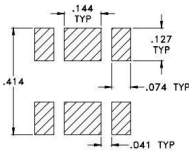
Electrical Schematic



Outline Drawing



PCB Land Pattern

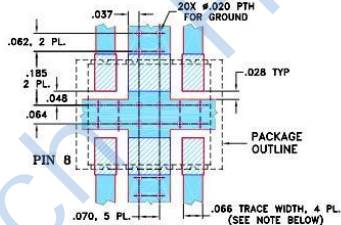


Suggested Layout,
Tolerance to be within ±0.05

Pad Connections

Input	8
Output	1
Forward	5
Reverse	4
Ground	2,3,6,7

Demo Board P/N: TB-349 Suggested PCB Layout (PL-246)



NOTES:

1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.30" ± .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

Dimensions are in metric (mm)

A	B	C	D	E	F
9.65	12.70	6.35	0.51	2.92	1.78
G	H	J	K	L	M
0.89	1.27	2.29	1.02	2.67	3.56
N	wt				
2.41	0.8g				