

Surface Mount Bi-Directional Coupler

BDCN-17-25+ BDCN-17-25

High Power, 50Ω

824 to 2525 MHz

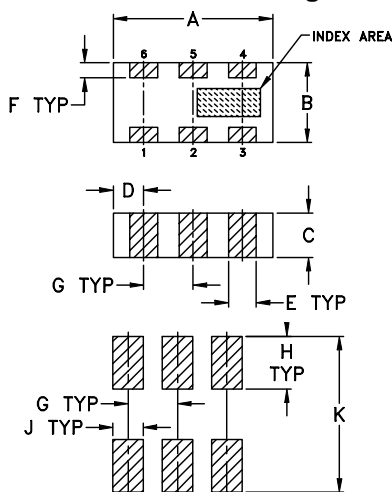
Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C

Pin Connections

INPUT	1
OUTPUT	4
COUPLED (forward)	6
COUPLED (reverse)	3
GROUND	2,5

Outline Drawing

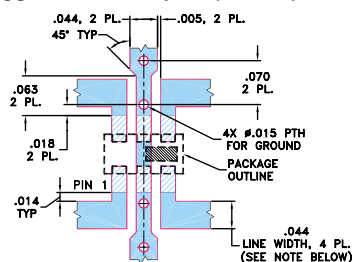


SUGGESTED LAYOUT FOR PCB PATTERN
PATTERN TO BE WITHIN ±.002

Outline Dimensions (inch/mm)

A	B	C	D	E	F	
.126	.063	.037	.024	.022	.012	
3.20	1.60	0.94	0.61	0.56	0.30	
G	H	J	K	wt		
.039	.042	.024	.123	grams		
0.99	1.07	0.61	3.12	.020		

Demo Board MCL P/N: TB-255
Suggested PCB Layout (PL-131)



- NOTE:
- TRACE WIDTH IS SHOWN FOR ROGERS RO4350 WITH DIELECTRIC THICKNESS .020" ± .0015". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
 - BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT
 - DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

Features

- four-port coupler
- wideband, 824-2525 MHz
- excellent VSWR, 1.2:1 typ., all ports
- minimal variation with temperature
- ultra small size

Applications

- UMTS • CDMA
- PCS • ISM
- GPS • DCS
- TDMA



CASE STYLE: FV1206-1
PRICE: \$2.99 ea. QTY (10-49)
\$1.99 ea. QTY (1000)

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

See our web site for RoHS Compliance methodologies
and qualifications.

Bi-Directional Electrical Specifications

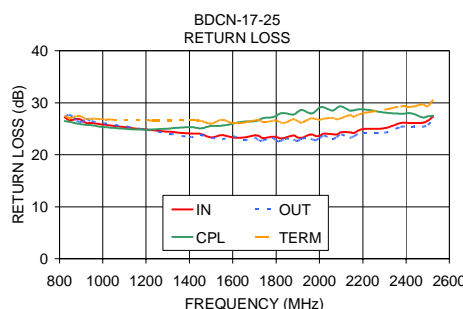
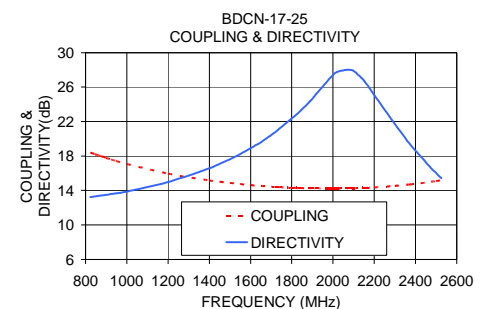
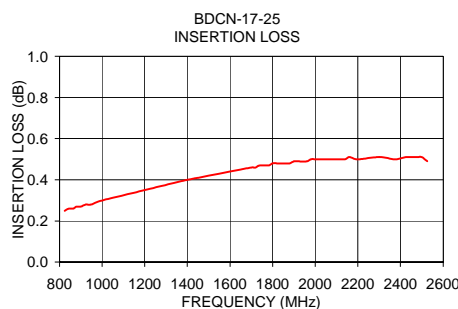
MODEL NO.	FREQ. RANGE (MHz)	COUPLING (dB)		MAINLINE LOSS* (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT** (W)
		Nom.	Max. Flatness	Typ.	Max.	Typ.	Min.		
BDCN-17-25(+)	824-2525	16.8±2.0	±3.0	0.6	0.9	13	10	1.2	16
	824-894	18.3±0.6	±0.6	0.3	0.8	13	10	1.2	16
	880-960	17.6±0.6	±0.6	0.3	0.8	13	10	1.2	16
	1710-1880	14.3±0.6	±0.6	0.5	0.9	22	17	1.2	16
	1850-1990	14.3±0.6	±0.4	0.5	0.9	22	17	1.2	16
	2110-2170	14.3±0.6	±0.4	0.5	0.9	25	20	1.2	16
	2375-2525	15.0±0.6	±0.8	0.5	0.9	15	11	1.2	16

* Includes theoretical coupled power loss of 0.1 dB at 17 dB coupling.

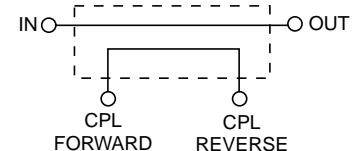
** Derate linearly to 8W at 100°C

Typical Performance Data

Frequency (MHz)	Insertion Loss (dB) In-Out	Coupling (dB)		Directivity (dB)		Return Loss (dB)			
		In-CPL	Out-Term	Out-CPL	In-Term	In	Out	CPL	Term
824.00	0.25	18.40	18.40	13.19	13.24	27.22	27.34	26.50	27.52
1000.00	0.30	17.07	17.08	13.85	13.88	25.83	26.07	25.35	26.82
1500.00	0.42	14.87	14.88	17.67	17.63	23.35	23.34	25.52	25.99
1700.00	0.46	14.45	14.46	20.65	20.43	23.72	23.26	26.46	26.58
1800.00	0.48	14.32	14.33	22.72	22.36	23.44	22.72	27.48	26.58
1880.00	0.48	14.25	14.26	24.64	24.13	23.72	22.87	27.72	26.82
2000.00	0.50	14.22	14.23	27.94	27.40	23.63	23.17	29.06	26.72
2100.00	0.50	14.26	14.26	28.30	27.88	24.33	23.91	29.31	27.02
2300.00	0.51	14.54	14.53	21.69	21.71	25.09	24.22	28.13	28.67
2525.00	0.49	15.18	15.16	15.51	15.42	27.33	26.72	27.50	30.60



Bi-Directional Coupler Schematic



Mini-Circuits

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