

High Power Bi-Directional Coupler

BDCN-10-25+

50Ω 10dB Coupling 824 to 2525 MHz



CASE STYLE: FV1206-1

Maximum Ratings

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

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

Pin Connections

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

Features

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

Applications

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

+ 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.

Bi-Directional Coupler Electrical Specifications

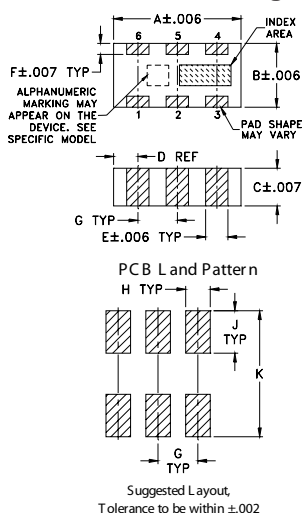
FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT ² , W	
	Nom.	Max. Flatness	Typ.	Max.	Typ.	Min.		Typ.	Max.
824 - 2525	10.2 ± 1.8	±2.2	1.0	1.5	17	9	1.2	15	
824 - 894	11.7 ± 0.5	±0.4	0.6	0.9	14	9	1.2	15	
880 - 960	11.3 ± 0.5	±0.4	0.6	1.0	14	9	1.2	15	
1710 - 1880	8.5 ± 0.5	±0.3	1.1	1.5	17	10	1.2	15	
1850 - 1990	8.5 ± 0.5	±0.3	1.1	1.5	17	10	1.2	15	
2110 - 2170	8.6 ± 0.5	±0.3	1.1	1.5	19	12	1.2	15	
2375 - 2525	9.4 ± 0.5	±0.4	1.0	1.4	19	12	1.2	15	

1. Mainline loss includes theoretical power loss of 0.43 dB at the 10.2 dB coupling.
2. Derate linearly 8W at 100°C

Typical Performance Data

Frequency (MHz)	Mainline Loss		Coupling (dB)		Directivity (dB)		Return Loss (dB)			
	In-Out	In-Cpl Fwd	In-Cpl Rev	Out-Cpl Rev	In-Cpl Fwd	In-Cpl Rev	In	Out	Cpl Fwd	Cpl Rev
824	0.53	11.95	11.95	13.82	13.44	24.22	23.96	34.36	38.44	
880	0.57	11.51	11.50	13.97	13.52	23.71	23.52	33.63	38.42	
894	0.58	11.41	11.41	14.00	13.55	23.60	23.39	33.42	38.24	
960	0.64	10.96	10.96	14.19	13.65	23.16	22.83	32.66	38.26	
1500	1.00	8.77	8.76	16.29	14.87	20.60	20.02	30.09	36.65	
1710	1.07	8.44	8.44	17.68	15.59	20.13	19.50	30.19	36.07	
1850	1.11	8.36	8.37	18.98	16.19	19.98	19.36	30.38	36.27	
1880	1.10	8.35	8.35	19.32	16.35	19.92	19.36	30.45	36.15	
1990	1.10	8.37	8.38	20.75	16.92	19.87	19.25	30.62	36.53	
2110	1.11	8.48	8.49	22.88	17.58	19.92	19.36	30.96	37.28	
2170	1.09	8.56	8.58	24.23	17.91	19.96	19.32	31.17	37.43	
2375	1.05	9.01	9.04	30.15	18.79	20.22	19.38	31.90	37.28	
2525	0.99	9.52	9.58	27.88	18.73	20.37	19.53	32.58	35.78	

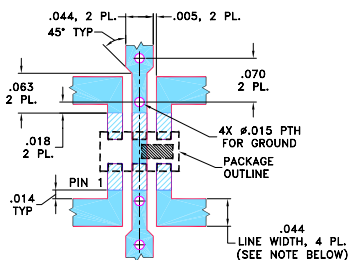
Outline Drawing



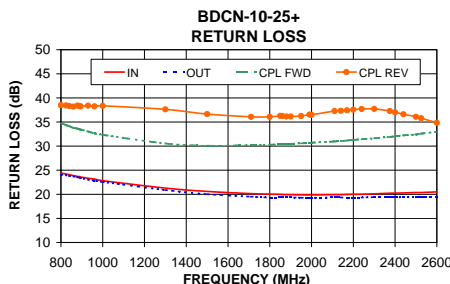
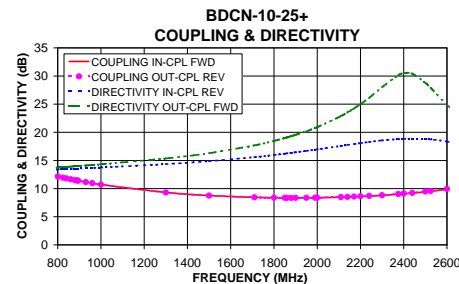
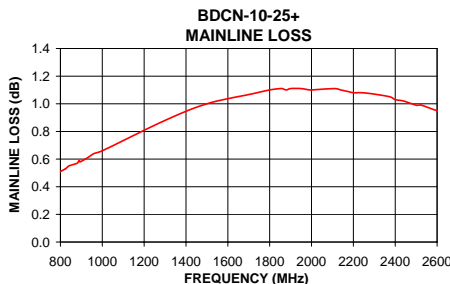
Outline Dimensions (inch/mm)

A	B	C	D	E	F
.126	.063	.035	.024	.022	.011
3.20	1.60	0.89	0.61	0.56	0.28
G	H	J	K	wt	
.039	.024	.042	.123	grams	
0.99	0.61	1.07	3.12	.020	

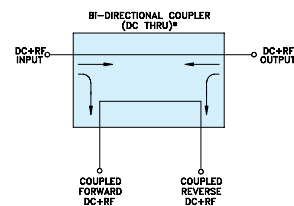
Demo Board MCL P/N: TB-255+ Suggested PCB Layout (PL-131)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.020" ± 0.0015"; 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 & shopping online see web site

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IF/RF MICROWAVE COMPONENTS

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