

# Surface Mount Bi-Directional Coupler

**NEW!**  
**BDCA1-6-22**

High Power, 50Ω

950 to 2200 MHz

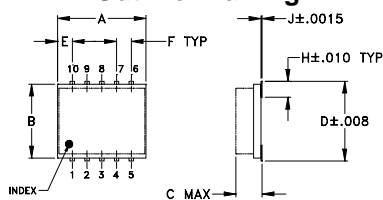
## Maximum Ratings

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

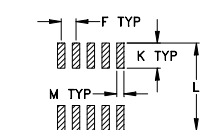
## Pin Connections

INPUT	1
OUTPUT	6
COUPLED (forward)	10
COUPLED (reverse)	5
GROUND	2,3,4,7,8,9

## Outline Drawing



TOLERANCES  
2 PL DECIMALS ±.01  
3 PL DECIMALS ±.005  
UNLESS OTHERWISE SPECIFIED



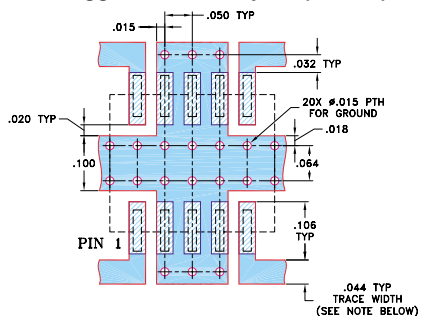
SUGGESTED LAYOUT FOR PCB LAND PATTERN

## Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.30	.250	.052	.274	.050	.050	.012
7.62	6.35	1.32	6.96	1.27	1.27	0.30

H	J	K	L	M	wt
.057	.004	.085	.296	.030	grams
1.45	0.10	2.16	7.52	0.76	0.25

## Demo Board MCL P/N: TB-115 Suggested PCB Layout (PL-004)



NOTE: TRACE WIDTH IS SHOWN FOR ROGERS RO4350 WITH DIELECTRIC THICKNESS 0.020" ± 0.0015", COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

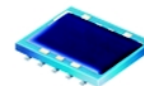
- DENOTES PCB COPPER LAYOUT
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

## Features

- wideband, 950-2200 MHz
- excellent VSWR 1.15:1
- excellent power handling capability, 44W (1900 MHz)
- low temperature variation

## Applications

- DCS, PCS
- mobile satellite



**BLUE CELL™**

CASE STYLE: DZ944  
PRICE: \$3.95 ea. QTY (10-49)

## Bi-Directional Electrical Specifications

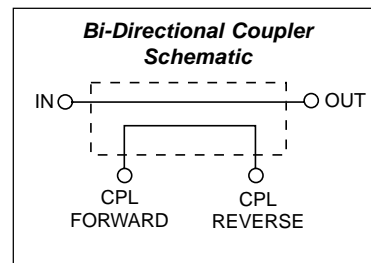
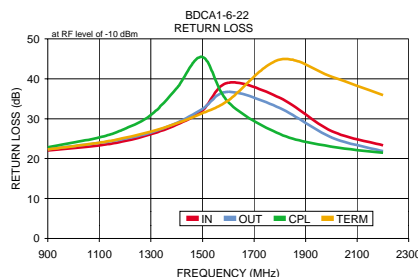
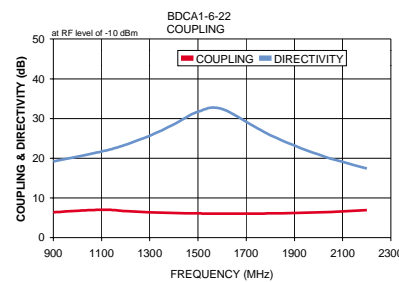
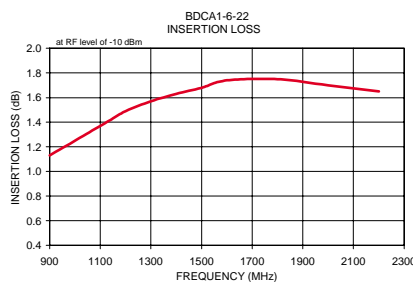
MODEL NO.	FREQ. RANGE (MHz)	COUPLING (dB)		MAINLINE LOSS* (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT** (W)
		Nom.	Max. Flatness	Typ.	Max.	Typ.	Min.		
BDCA1-6-22	950-1400	6.9±1.0	±1.0	1.4	1.9	23	17	1.20	57
	1400-1900	6.0±0.5	±0.3	1.7	2.1	28	20	1.10	44
	1900-2200	6.5±0.7	±0.7	1.7	2.1	22	15	1.15	37

\* Includes theoretical coupled power loss of 1.25 dB at 6 dB coupling.

\*\* Derate linearly to 1/3 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
900.00	1.13	6.41	7.97	18.73	19.16	22.02	22.37	22.89	22.31
1100.00	1.37	7.03	7.01	20.95	21.69	23.33	23.95	25.33	24.01
1200.00	1.49	6.70	6.69	22.51	23.40	24.45	24.99	27.54	25.24
1300.00	1.57	6.41	6.40	24.54	25.66	26.11	26.55	30.92	26.77
1400.00	1.63	6.21	6.19	27.42	28.52	28.50	28.97	37.66	28.82
1500.00	1.68	6.10	6.07	31.79	31.71	32.09	32.46	45.49	31.40
1600.00	1.74	6.05	6.00	41.94	32.37	39.04	36.77	34.19	34.60
1800.00	1.75	6.09	6.04	30.48	25.81	35.26	32.67	26.19	44.83
2000.00	1.70	6.36	6.31	23.05	20.91	26.95	25.34	23.04	40.59
2200.00	1.65	6.90	6.85	18.81	17.40	23.34	21.86	21.49	35.92



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