

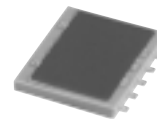
Surface Mount Bi-Directional Coupler

NEW!

BDCA-16-30

High Power, 50Ω

1800 to 4200 MHz



BLUE CELL™

CASE STYLE: DZ944
PRICE: \$5.95 ea. QTY (10-49)

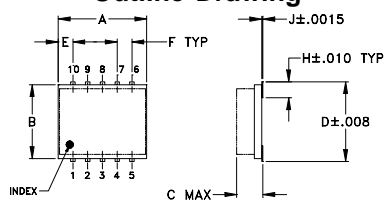
Maximum Ratings

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

Pin Connections

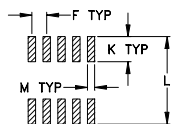
INPUT	1
OUTPUT	6
COUPLED (forward)	10
COUPLED (reverse)	5
GROUND	2,3,4,7,8,9

Outline Drawing



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

G TYP



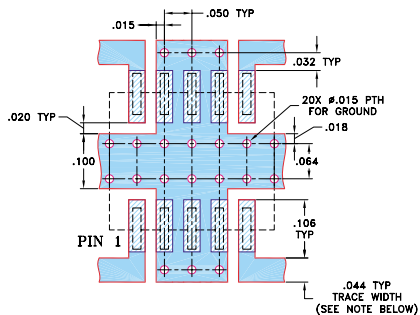
SUGGESTED LAYOUT FOR PCB LAND PATTERN

Outline Dimensions (inch)

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

- four-port coupler
- wideband, 1800-4200 MHz
- low insertion loss, 0.4 dB typ.
- low temperature variation
- low profile, 0.052" height

Applications

- PCS
- ISM
- MDS
- defense

Bi-Directional Electrical Specifications

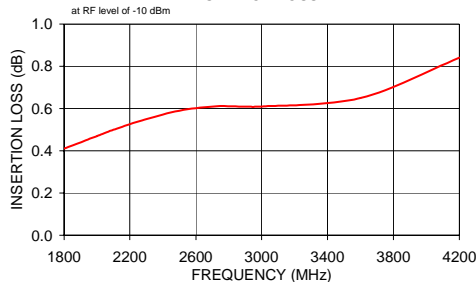
MODEL NO.	FREQ. RANGE (MHz)	COUPLING (dB)		MAINLINE LOSS* (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT** (W)
		Nom.	Max. Flatness	Typ.	Max.	Typ.	Min.		
BDCA-16-30	1800-3000	15.2±1.0	±1.2	0.5	0.9	23	13	1.3	24
	1800-2500	15.5±0.7	±1.0	0.4	0.9	22	14	1.3	27
	3000-4200	14.8±0.5	±1.0	0.7	1.2	18	13	1.3	18

* Includes theoretical coupled power loss of 0.11 dB at 16 dB coupling.
** Derate linearly to 1/3 at 100°C

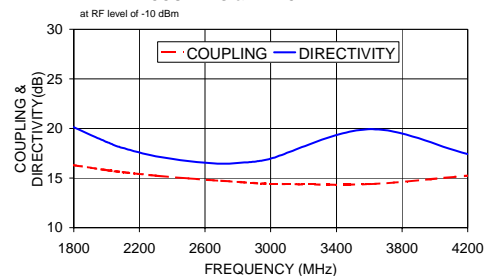
Typical Performance Data

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
1800.00	0.41	16.30	16.30	19.42	20.12	21.25	21.37	24.36	24.07
2000.00	0.47	15.80	15.79	18.24	18.65	19.08	19.19	21.44	21.24
2100.00	0.50	15.59	15.58	17.77	18.03	18.32	18.39	20.37	20.22
2300.00	0.55	15.24	15.25	17.27	17.21	17.42	17.40	18.62	18.65
2500.00	0.59	14.96	14.96	16.87	16.71	17.13	17.08	17.98	17.99
2700.00	0.61	14.72	14.72	17.09	16.46	17.58	17.63	18.07	17.99
2880.00	0.61	14.53	14.53	17.34	16.63	18.93	18.70	18.76	18.61
3000.00	0.61	14.42	14.43	17.62	16.96	20.57	20.11	19.50	19.38
3600.00	0.65	14.39	14.37	22.92	19.92	26.02	25.31	33.48	39.80
4200.00	0.84	15.24	15.23	19.29	17.42	15.01	14.78	19.56	20.00

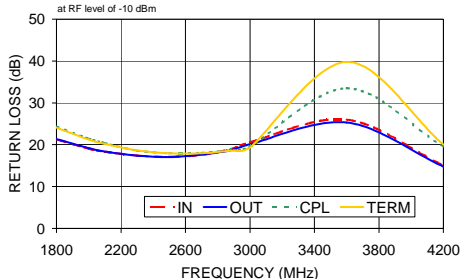
BDCA-16-30
INSERTION LOSS



BDCA-16-30
COUPLING & DIRECTIVITY



BDCA-16-30
RETURN LOSS



Bi-Directional Coupler Schematic

