

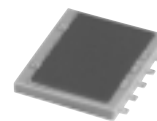
Surface Mount Bi-Directional Coupler

High Power, 50Ω

1800 to 4200 MHz

NEW!

BDCA-16-30



BLUE CELL™

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

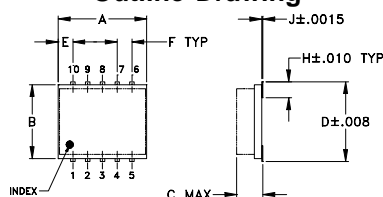
Maximum Ratings

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

Pin Connections

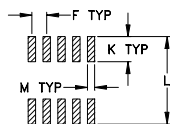
INPUT	1
OUTPUT	6
COUPLED (forward)	10
COUPLED (reverse)	5
GROUND	2,3,4,7,8,9

Outline Drawing



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

G TYP



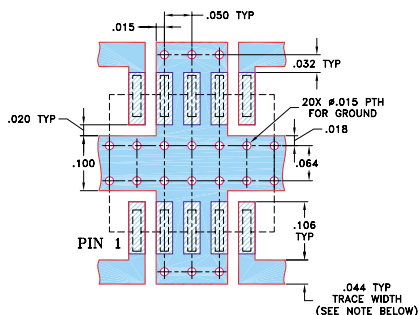
SUGGESTED LAYOUT FOR PCB LAND PATTERN

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	grams

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	1800-4200								
	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

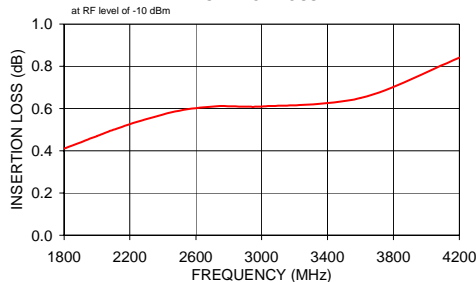
* Includes theoretical coupled power loss of 0.11 dB at 16 dB coupling.

** Derate linearly to 1/3 at 100°C

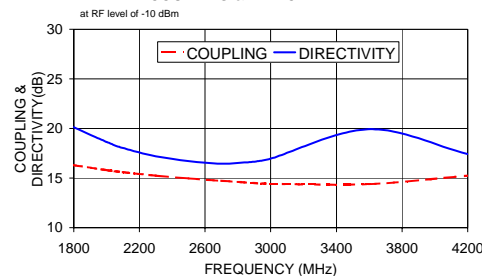
Typical Performance Data

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

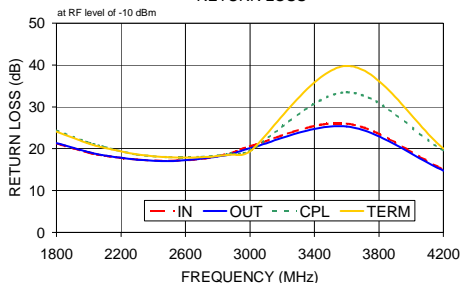
BDCA-16-30
INSERTION LOSS



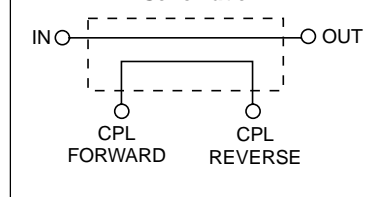
BDCA-16-30
COUPLING & DIRECTIVITY



BDCA-16-30
RETURN LOSS



Bi-Directional Coupler Schematic



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