

Surface Mount Bi-Directional Coupler

NEW!

BDCA1-10-40

High Power, 50Ω

1600 to 4000 MHz

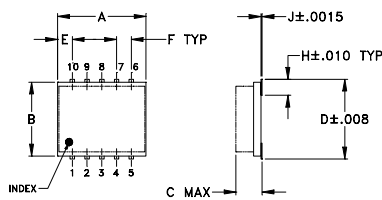
Maximum Ratings

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

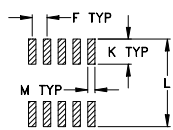
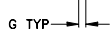
Pin Connections

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



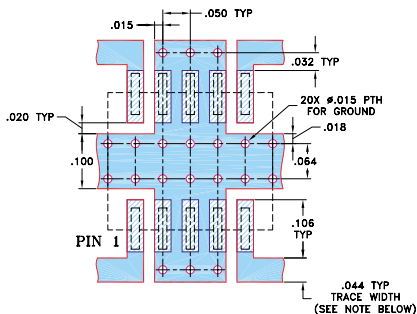
SUGGESTED LAYOUT FOR PCB LAND PATTERN

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.

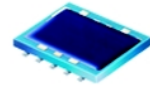
- DENOTES PCB COPPER LAYOUT
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Features

- four-port
- wideband, 1600-4000 MHz
- excellent VSWR 1.2:1 typ. all ports
- good flatness, ±0.5
- excellent power handling capability
- hermetically sealed
- minimal variation with temperature

Applications

- mobile satellite
- wireless communication
- ISM, PCS



BLUE CELL™

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

Bi-Directional Electrical Specifications

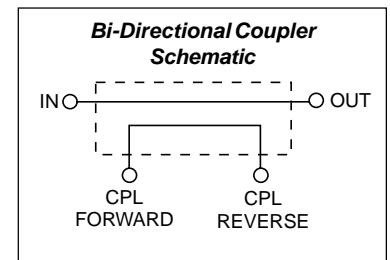
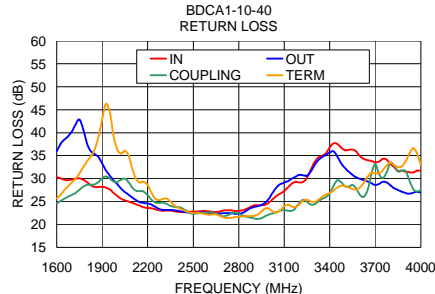
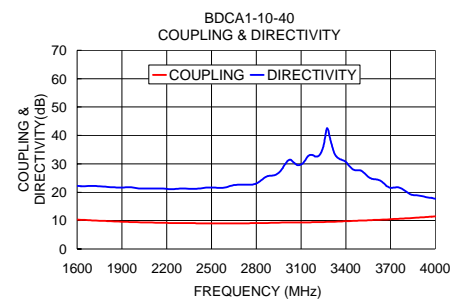
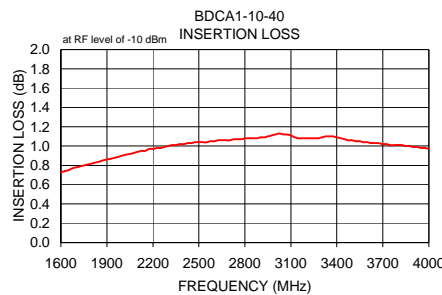
MODEL NO.	FREQ. RANGE (MHz)	COUPLING (dB)		MAINLINE LOSS* (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT** (W)
		Nom.	Max. Flatness	Typ.	Max.	Typ.	Min.		
BDCA1-10-40	1600-4000								
	1600-1800	10.1±0.7	±0.7	0.8	1.1	21	18	1.1	24
	1800-2200	9.5±0.7	±0.8	1.0	1.3	20	17	1.1	20
	2200-2900	9.1±0.5	±0.5	1.05	1.4	20	16	1.2	16
	2900-3500	9.6±0.9	±1.0	1.15	1.4	22	16	1.2	14
	3500-4000	10.8±1.0	±1.5	1.05	1.4	18	11	1.25	12

* Includes theoretical coupled power loss of 0.46dB at 10 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
1600.00	0.73	10.38	10.35	22.15	22.21	30.29	35.96	24.62	25.69
1800.00	0.82	9.83	9.82	21.29	21.91	29.24	37.69	28.63	33.72
2000.00	0.90	9.45	9.44	20.61	21.43	26.20	28.78	29.26	36.30
2200.00	0.97	9.22	9.21	20.25	21.19	23.61	24.59	26.38	28.57
2500.00	1.04	9.06	9.09	20.09	21.66	22.81	22.48	22.34	22.52
2900.00	1.09	9.23	9.17	21.21	25.85	24.12	23.79	21.32	21.84
3200.00	1.08	9.47	9.53	22.68	33.09	29.13	30.80	24.69	24.37
3500.00	1.06	10.01	10.17	24.81	27.65	36.17	32.26	28.32	28.37
3800.00	1.01	10.82	10.91	22.98	20.42	33.18	28.51	33.41	33.47
4000.00	0.97	11.51	11.60	20.98	17.71	31.77	26.97	27.56	32.91



Mini-Circuits®

Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

Mini-Circuits ISO 9001 & ISO 14001 Certified

INTERNET <http://www.minicircuits.com>

REV. OR
M91364
ED-11305/1
BDCA1-10-40
LC/TD/CP/AM
041112