

Surface Mount

Bi-Directional Coupler

NEW!

BDCA1-7-33

High Power, 50Ω

1600 to 3300 MHz

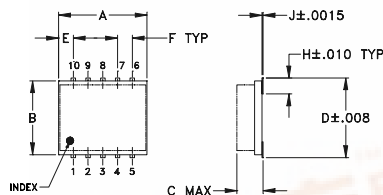
Maximum Ratings

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

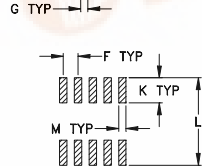
Pin Connections

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



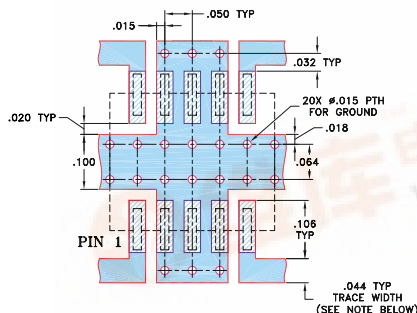
SUGGESTED LAYOUT FOR PCB LAND PATTERN

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	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
.057	.004	.085	.296	.030													
1.45	0.10	2.16	7.52	0.76													

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.

1 DENOTES PCB COPPER LAYOUT

2 DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Features

- wideband, 1600-3300 MHz
- excellent VSWR 1.1:1 typ.
- excellent power handling capability
- low profile

Applications

- defense communication
- ISM
- mobile satellite
- wireless communication

Bi-Directional Electrical Specifications

MODEL NO.	FREQ. RANGE (MHz) f_1 - f_2	COUPLING (dB)		MAINLINE LOSS* (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT** (W)
		Nom.	Max. Flatness	Typ.	Max.	Typ.	Min.		
BDCA1-7-33	1600-3300								
	1600-2200	7.0±0.6	±0.8	1.6	1.9	27	22	1.10	32
	2200-2700	6.5±0.5	±0.3	1.6	1.9	23	18	1.15	32
	2700-3300	7.1±0.6	±0.9	1.6	1.9	21	17	1.15	24

* Includes theoretical coupled power loss of 1.0 dB at 7 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	1.25	7.42	7.42	29.58	31.57	30.85	32.38	33.94	28.53
1800.00	1.38	6.97	6.98	35.58	32.54	40.89	54.99	45.06	30.53
2000.00	1.49	6.67	6.68	32.37	28.09	36.34	32.22	36.75	32.19
2200.00	1.59	6.49	6.51	27.61	24.86	28.93	26.79	32.27	33.17
2400.00	1.63	6.41	6.43	24.83	22.95	25.58	24.18	30.95	32.97
2600.00	1.72	6.43	6.47	23.19	21.73	24.33	23.26	31.89	31.67
2800.00	1.64	6.50	6.57	22.30	21.21	24.79	23.63	34.98	29.98
3000.00	1.67	6.74	6.83	22.07	21.12	27.56	25.80	44.47	29.03
3200.00	1.63	7.15	7.20	22.20	21.87	31.40	28.60	38.15	28.84
3300.00	1.58	7.35	7.52	24.60	23.52	33.20	31.52	36.12	29.36

