

Bi-Directional Coupler

BDCA-22-16

High Power, 50Ω

800 to 1600 MHz

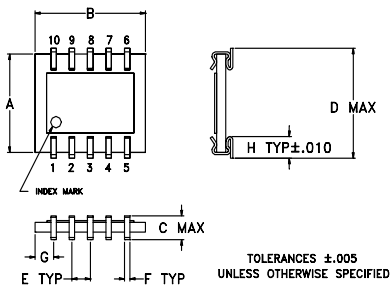
Maximum Ratings

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

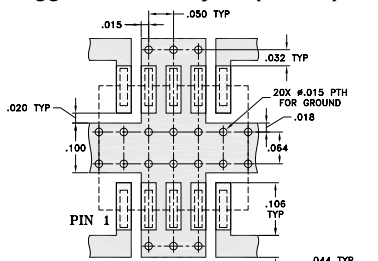


SUGGESTED LAYOUT FOR PCB PATTERN
ADJACENT GROUND PINS SHALL BE CONNECTED
TO EACH OTHER AND TO GROUND PAD

Outline Dimensions (inch)

A	B	C	D	E	F	G	H	J
.250	.300	.070	.320	.050	.015	.050	.075	.030
6.35	7.62	1.78	8.12	1.27	.38	1.27	1.91	.76
K	L	M	N	P	Q	R	wt.	
.095	.330	.100	.020	.015	.070	.014	grams	
2.41	8.38	2.54	.51	.38	1.78	.36		.3

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



Features

- wideband, 800-1600 MHz
- excellent VSWR, 1.15:1 typ., all ports
- good flatness, ±0.7 dB typ.
- high power, 42W at 1 GHz
- hermetically sealed
- minimal variation with temperature
- low profile, 0.07" height

Applications

- GSM, cellular
- GPS
- ISM

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-22-16	800-1600	22.1±2.0	±1.2	0.4	0.7	23	11	1.15	35
	800-1000	22.7±0.8	±0.8	0.3	0.6	24	14	1.15	42
	1100-1600	21.0±0.7	±0.5	0.4	0.7	22	11	1.15	35

* Includes theoretical coupled power loss of 0.03 dB at 22 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
800.00	0.34	23.59	23.61	20.74	21.53	26.64	25.66	18.90	19.44
900.00	0.37	22.95	22.98	20.17	20.70	25.63	24.77	18.26	18.73
1000.00	0.40	22.41	22.43	19.50	19.89	24.60	24.08	17.63	18.13
1100.00	0.41	21.98	22.01	19.05	19.08	23.75	23.46	17.16	17.62
1200.00	0.41	21.66	21.69	18.29	18.30	23.10	23.06	16.79	17.23
1300.00	0.44	21.47	21.50	17.99	17.69	22.68	23.05	16.55	17.00
1400.00	0.48	21.38	21.40	17.59	17.20	22.56	23.29	16.42	16.86
1500.00	0.48	21.37	21.38	17.21	16.74	22.85	24.01	16.46	16.89
1550.00	0.50	21.42	21.43	17.10	16.50	23.13	24.41	16.51	16.92
1600.00	0.51	21.47	21.47	17.09	16.54	23.35	24.73	16.56	16.96

