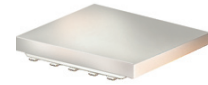


High Power Bi-Directional Coupler

BDCA-15-25+

50Ω 15dB Coupling DC Pass 800 to 2500 MHz



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

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

Maximum Ratings

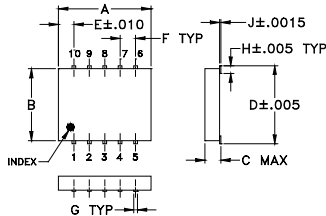
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
DC Current	0.25A

Permanent damage may occur if any of these limits are exceeded.

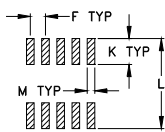
Pin Connections

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

Outline Drawing



PCB Land Pattern

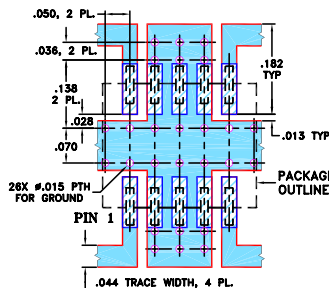


Suggested Layout
Tolerance to be within ±.002

Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	
.30	.250	.052	.266	.050	.050	.012	
7.62	6.35	1.32	6.76	1.27	1.27	0.30	
H	J	K	L	M			wt
.029	.004	.085	.296	.030			grams
0.74	0.10	2.16	7.52	0.76			0.25

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



NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020 ± .0015; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Features

- four-port coupler
- wideband, 800 to 2500 MHz
- excellent VSWR, 1.15:1 typ. all ports
- hermetically sealed
- minimal variation with temperature variation
- low profile. 0.07" height
- protected by US Patent 7,049,905
- DC current through input to output 0.25A Max. at 1.0 watt RF input power.

Applications

- cellular, PCA, PCN, UMTS
- ISM
- GPS

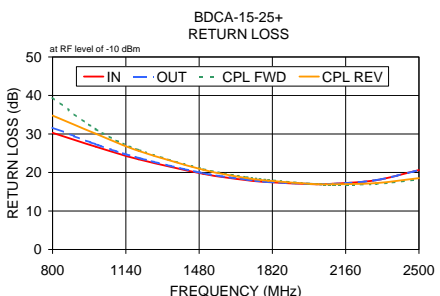
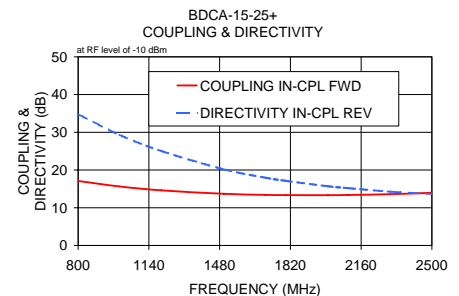
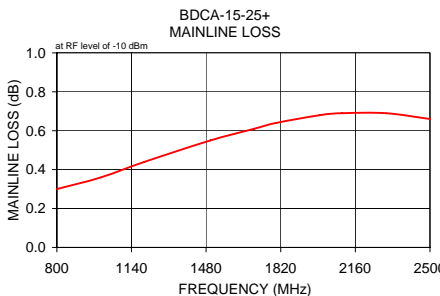
Bi-Directional Coupler Electrical Specifications

FREQUENCY (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT ² (W)
	Nom.	Max. Flatness	Typ.	Max.	Typ.	Min.		
$f_c - f_u$	15±1.7	±2.4	0.5	1.0	27	11	1.20	23
800-1000	16.3±0.8	±1.1	0.35	0.6	27	19	1.15	40
1800-2000	13.5±0.5	±0.3	0.55	1.0	17	12	1.35	28

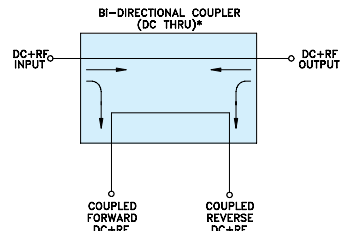
1. Includes theoretical power loss of 0.14 dB at 15 dB coupling.
2. Derate linearly 1/3 at 100°C

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB)		Coupling (dB)		Directivity (dB)		Return Loss (dB)		
	In-Out	In-Cpl Fwd	Out-Cpl Rev	Out-Cpl Fwd	In-Cpl Rev	In	Out	Cpl Fwd	Cpl Rev
800.00	0.30	17.09	17.11	35.62	34.78	30.30	31.64	39.42	34.79
1000.00	0.36	15.63	15.63	27.89	29.29	26.70	27.33	31.23	30.07
1200.00	0.44	14.61	14.61	23.87	25.04	23.41	23.75	25.82	25.60
1500.00	0.55	13.70	13.71	19.67	20.19	19.65	19.81	20.85	20.70
1700.00	0.61	13.41	13.41	17.68	17.96	18.00	18.18	18.76	18.55
1800.00	0.64	13.34	13.34	16.92	17.12	17.50	17.57	18.05	17.88
2000.00	0.68	13.33	13.33	15.78	15.69	16.97	17.04	17.05	17.04
2100.00	0.69	13.39	13.37	15.31	15.19	17.07	17.02	16.88	16.93
2300.00	0.69	13.59	13.57	14.62	14.25	17.99	18.01	17.04	17.24
2500.00	0.66	13.96	13.93	14.06	13.64	20.62	20.58	18.22	18.53



Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR BI-DIRECTIONAL COUPLER WITHOUT INTERNAL TRANSFORMERS AND RESISTORS.

For detailed performance specs & shopping online see web site

Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at minicircuits.com

IF/RF MICROWAVE COMPONENTS

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuits' applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp.

REV. H
M119986
ED-9168D/1
BDCA-15-25+
LC/TD/CP/AM
090903