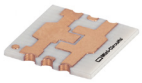
High Power

Bi-Directional Coupler

CPL-20-14+

50Ω 20dB Coupling DC Pass 9200 to 10500 MHz



Generic photo used for illustration purposes only

CASE STYLE: MW1654

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Maximum Ratings

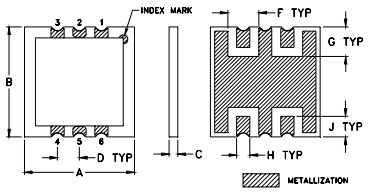
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
DC Current	0.5A

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

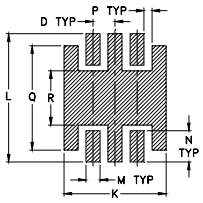
Pad Connections

INPUT	3
OUTPUT	4
COUPLED (forward)	1
COUPLED (reverse)	6
GROUND	2,5

Outline Drawing



PCB Land Pattern



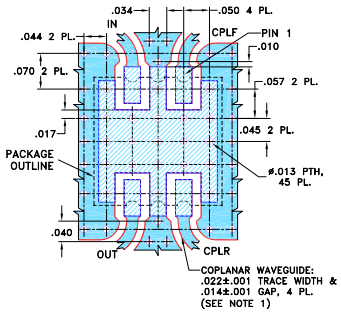
Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J
.250	.250	.02	.05	-'	.070	0.067	0.03	0.047
6.35	6.35	0.51	1.27	-"	1.78	1.70	0.76	1.19

K	L	M	N	P	Q	R	wt
0.232	.291	.032	.071	.018	.237	.123	grams
5.89	7.39	0.81	1.80	0.46	6.02	3.12	0.05

Demo Board MCL P/N: TB-762+
Suggested PCB Layout (PL-420)



1. TRACE WIDTH PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .010"±.001". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
3. 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
- excellent return loss, all ports
- DC current through input to output 0.5A Max. at 1.0 watt RF input power

Applications

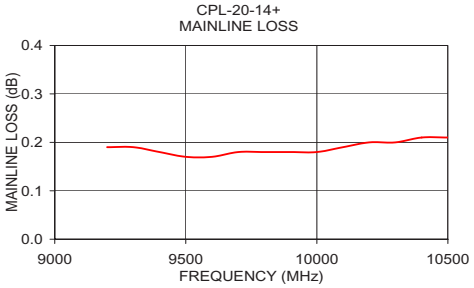
- defense communications
- space science service
- satellite

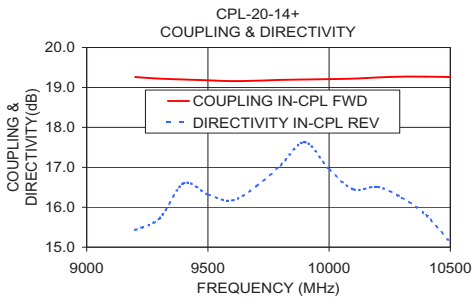
Electrical Specifications at 25°C

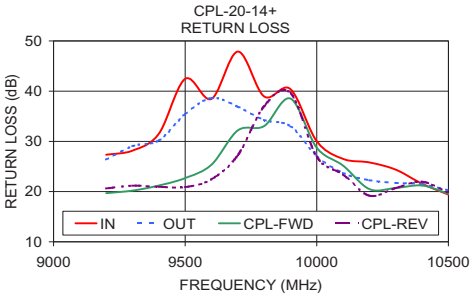
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Frequency Range		9200		10500	MHz
Coupling	9200-10500	—	19.2±1.5	—	dB
Coupling Flatness(±)	9200-10500	—	0.15	—	dB
Mainline Loss	9200-10500	—	0.2	0.5	dB
Directivity	9200-10500	10	16	—	dB
Return Loss	9200-10500	—	19	—	dB
Input Power	9200-10500	—	16	—	W

Typical Performance Data

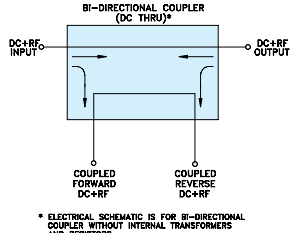
Frequency (MHz)	Mainline Loss (dB)	Coupling (dB)		Directivity (dB)		Return Loss (dB)			
	In-Out	In-Cpl Fwd	Out-Cpl Rev	Out-Cpl Fwd	In-Cpl Rev	In	Out	Cpl Fwd	Cpl Rev
9200.00	0.19	19.26	19.17	15.45	15.43	27.34	26.37	19.69	20.62
9300.00	0.19	19.22	19.13	16.24	15.72	28.16	29.06	20.19	21.18
9400.00	0.18	19.20	19.11	17.30	16.60	31.52	30.18	21.20	20.96
9500.00	0.17	19.18	19.09	17.20	16.32	42.44	35.39	22.69	20.89
9600.00	0.17	19.16	19.07	17.10	16.17	38.46	38.63	25.36	22.45
9700.00	0.18	19.17	19.08	17.60	16.53	47.88	36.90	32.19	27.25
9800.00	0.18	19.19	19.10	18.33	17.05	38.96	34.26	33.04	36.99
9900.00	0.18	19.20	19.12	19.31	17.63	40.41	33.03	38.52	39.66
10000.00	0.18	19.21	19.15	18.84	16.95	30.04	27.12	28.74	26.96
10100.00	0.19	19.22	19.19	18.16	16.45	26.51	23.70	25.17	23.38
10200.00	0.20	19.25	19.25	18.10	16.51	25.80	22.27	20.49	19.19
10300.00	0.20	19.27	19.32	18.08	16.24	24.36	21.73	20.71	20.70
10400.00	0.21	19.27	19.36	18.16	15.80	21.57	21.48	21.21	21.96
10500.00	0.21	19.26	19.40	17.60	15.11	19.40	20.28	19.58	19.80







Electrical Schematic



Notes

A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document 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