

Surface Mount Power Splitter/Combiner

4 Way-0° 50Ω 1710 to 1990 MHz

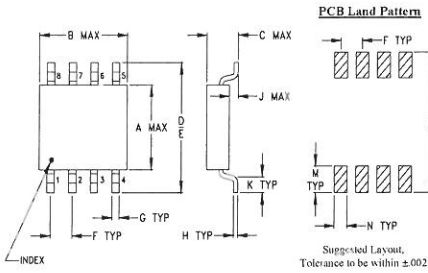
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-65°C to 150°C
Power Input (as a splitter)	1.5W max.
Internal Dissipation	0.375W max.
Permanent damage may occur if any of these limits are exceeded.	

Pin Connections

SUM PORT	2
PORT 1	1
PORT 2	8
PORT 3	5
PORT 4	4
GROUND	3,6,7

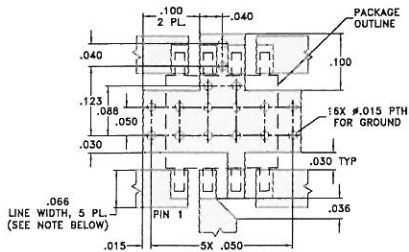
Outline Drawing



Outline Dimensions (inch min)

A	B	C	D	E	F	G
.163	.210	.077	.250	.220	.050	.017
4.14	5.33	1.96	6.35	5.59	1.27	0.43
H	J	K	M	N	P	wt
.009	.025	.030	.050	.030	.270	grams
0.23	0.64	0.76	1.27	0.76	6.86	0.10

Demo Board MCL P/N: TB-231 Suggested PCB Layout (PL-113)



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.030" ± 0.002"; 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

- low insertion loss, 0.8 dB typ.
- excellent output VSWR, 1.25:1 typ.
- aqueous washable
- excellent power handling, 1.5W

Applications

- PCS/DCS
- GSM
- WCDMA

Electrical Specifications

FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) ABOVE 6 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE Δ (dB)	VSWR (:1) Typ.	
	Typ.	Min.	Typ.	Max.			Ports S	Ports 1,2,3,4
1710-1990	23	19*	0.8	1.3	15	0.5	1.2	1.25

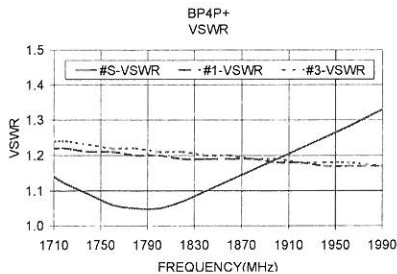
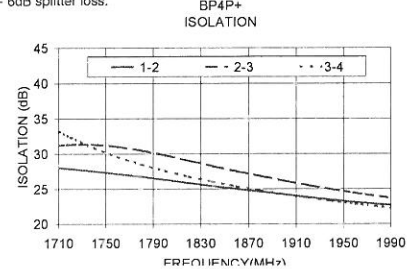
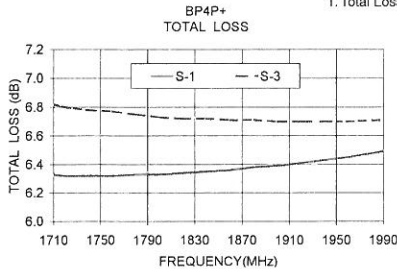
*18 dB min. above 1900 MHz.

Δ Measurements relative to port 2.

Typical Performance Data

Freq. (MHz)	Total Loss ¹ (dB)				Amp. Unbal. (dB)	Isolation (dB)			Phase Unbal. (deg.)	VSWR S	VSWR 1	VSWR 2	VSWR 3	VSWR 4
	S-1	S-2	S-3	S-4		1-2	2-3	3-4						
1710.00	6.33	6.64	6.82	6.82	0.50	28.02	31.20	33.25	6.48	1.14	1.22	1.28	1.24	1.29
1720.00	6.32	6.63	6.80	6.81	0.49	27.88	31.33	32.37	6.67	1.12	1.22	1.28	1.24	1.29
1740.00	6.32	6.61	6.78	6.80	0.48	27.54	31.32	30.86	7.05	1.09	1.21	1.27	1.23	1.28
1760.00	6.32	6.59	6.77	6.78	0.46	27.16	31.01	29.59	7.43	1.06	1.21	1.27	1.22	1.27
1780.00	6.33	6.57	6.75	6.77	0.45	26.75	30.48	28.51	7.82	1.05	1.20	1.26	1.22	1.26
1800.00	6.33	6.56	6.73	6.76	0.43	26.31	29.80	27.58	8.19	1.05	1.20	1.26	1.21	1.26
1820.00	6.34	6.55	6.72	6.76	0.42	25.85	29.03	26.75	8.56	1.07	1.19	1.25	1.21	1.25
1840.00	6.35	6.54	6.72	6.76	0.41	25.41	28.25	26.01	8.93	1.10	1.19	1.25	1.20	1.24
1860.00	6.36	6.54	6.71	6.76	0.39	25.00	27.52	25.36	9.30	1.13	1.19	1.24	1.20	1.24
1880.00	6.38	6.54	6.71	6.76	0.38	24.59	26.83	24.76	9.67	1.16	1.19	1.24	1.19	1.23
1900.00	6.39	6.53	6.70	6.76	0.36	24.20	26.14	24.21	10.04	1.19	1.18	1.24	1.19	1.23
1920.00	6.41	6.53	6.70	6.76	0.35	23.80	25.51	23.71	10.41	1.22	1.18	1.23	1.18	1.22
1940.00	6.43	6.53	6.70	6.77	0.34	23.43	24.93	23.25	10.77	1.25	1.17	1.23	1.18	1.22
1960.00	6.45	6.54	6.70	6.78	0.32	23.11	24.40	22.83	11.13	1.28	1.17	1.22	1.18	1.21
1990.00	6.49	6.54	6.71	6.79	0.30	22.65	23.66	22.24	11.70	1.33	1.17	1.22	1.17	1.21

1. Total Loss = Insertion Loss + 6dB splitter loss.



electrical schematic



ESD Rating

Human Body Model (HBM): Class 1A (250 v to <500 v) in accordance with ANSI/ESD STM 5.1 - 2001
Machine Model (MM): Class M1 (< 100 v) in accordance with ANSI/ESD STM 5.2 - 1999 (pass 50V)



For detailed performance specs & shopping online see web site

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

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 application 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. B
M127604
ED-12348C;B+
RS,LC/CP/AM
BP4P+
120620

LO₁ pwr divider
on mixer card

BP4P+



CASE STYLE: XX211

PRICE: \$1.49 ea. QTY. (20)

+RoHS Compliant

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

Available Tape and Reel at no extra cost
Reel Size Devices/Reel
7" 20, 50, 100, 200, 500, 1000