

Surface Mount

Power Splitter/Combiner

WP4F1+

4 Way-0° 50Ω 4750 to 6200 MHz

Maximum Ratings

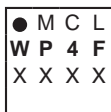
Operating Temperature	-40°C to 85°C
Storage Temperature	-65°C to 150°C
Power Input (as a splitter)	1.5W max.
Internal Dissipation	0.375W max.

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

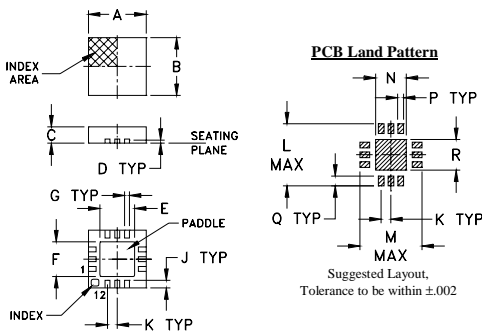
Pad Connections

SUM PORT	2
PORT 1	12
PORT 2	10
PORT 3	6
PORT 4	4
GROUND	1,3,5,7,8,9,11, paddle

Product Marking



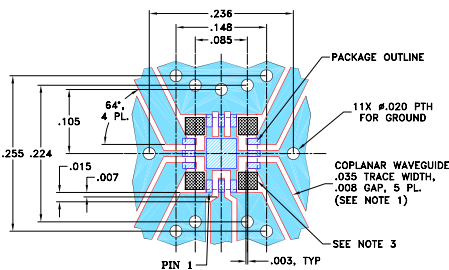
Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J
.118	.118	.035	.008	.057	.057	.009	---	.016
3.00	3.00	0.89	0.20	1.45	1.45	0.23	---	0.41
K	L	M	N	P	Q	R		wt
.020	.127	.127	.049	.010	.020	.049		grams
0.51	3.23	3.23	1.24	0.25	0.51	1.24		0.02

Demo Board MCL P/N: TB-395+ Suggested PCB Layout (PL-259)



- NOTES:**
- TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
 - BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
 - SIGNAL TRACES ARE NOT ALLOWED INSIDE HATCHED AREAS (APPROX. .030" X .030") AT 4 PLACES AS SHOWN.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
 - DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Features

- excellent isolation, 28 dB typ.
- good phase unbalance 3 deg. typ.
- good amplitude unbalance, 0.15 dB typ.
- small size, .118" x .118" x .035"
- high ESD level
- aqueous washable

Applications

- WLAN
- WIMAX
- ISM
- radar

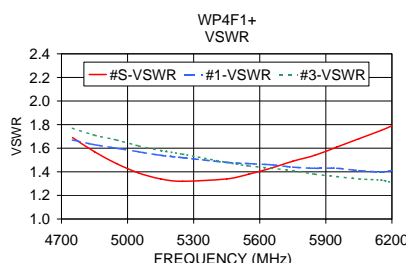
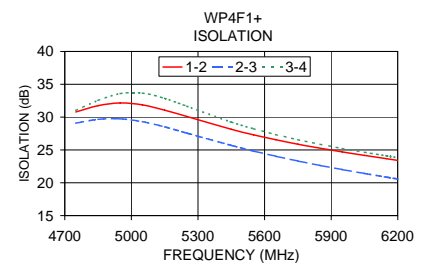
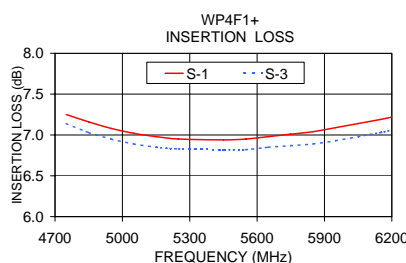
Electrical Specifications

FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS* (dB) ABOVE 6.0 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)	VSWR (:1) Typ.	
	Typ.	Min.	Typ.	Max.	Max.	Max.	Port S	Ports 1,2,3,4
4750-6200	28	16	1.0	2.0	9	0.6	1.5	1.5

* Includes fixture loss, 0.3 dB typ.

Typical Performance Data

Freq. (MHz)	Insertion Loss (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						
4750.00	7.25	7.16	7.14	7.23	0.11	30.79	29.08	31.01	2.02	1.69	1.67	1.73	1.77	1.62
4850.00	7.16	7.05	7.03	7.13	0.12	31.75	29.67	32.54	1.76	1.57	1.63	1.68	1.71	1.59
4950.00	7.08	6.97	6.95	7.06	0.13	32.15	29.74	33.59	1.77	1.47	1.60	1.64	1.67	1.56
5050.00	7.02	6.90	6.89	7.00	0.13	31.86	29.31	33.66	1.83	1.39	1.57	1.59	1.62	1.53
5150.00	6.98	6.86	6.85	6.96	0.13	31.06	28.52	32.87	1.87	1.34	1.54	1.55	1.58	1.51
5250.00	6.95	6.83	6.83	6.93	0.12	30.10	27.57	31.66	1.92	1.32	1.52	1.52	1.55	1.49
5450.00	6.94	6.81	6.82	6.91	0.13	28.15	25.70	29.25	2.02	1.34	1.48	1.47	1.48	1.45
5550.00	6.95	6.82	6.82	6.93	0.13	27.31	24.84	28.24	2.04	1.38	1.47	1.44	1.45	1.45
5650.00	6.98	6.84	6.85	6.95	0.13	26.56	24.05	27.35	2.14	1.43	1.46	1.42	1.43	1.44
5750.00	7.01	6.88	6.87	6.98	0.13	25.87	23.32	26.56	2.28	1.49	1.44	1.40	1.41	1.42
5850.00	7.04	6.92	6.89	7.02	0.15	25.27	22.64	25.87	2.54	1.54	1.43	1.37	1.38	1.42
5950.00	7.09	6.97	6.93	7.07	0.16	24.70	22.01	25.23	2.84	1.61	1.43	1.36	1.36	1.42
6050.00	7.14	7.03	6.98	7.12	0.16	24.17	21.42	24.65	3.08	1.68	1.41	1.33	1.34	1.41
6150.00	7.19	7.10	7.03	7.18	0.16	23.66	20.85	24.10	3.34	1.75	1.40	1.32	1.33	1.40
6200.00	7.22	7.12	7.06	7.20	0.16	23.41	20.58	23.82	3.43	1.79	1.41	1.31	1.31	1.40



electrical schematic



ESD Rating

Human Body Model (HBM): Class 1A (250v to < 500v) in accordance with ANSI/ESD STM 5.1 - 2001
Machine Model (MM): Class M2 (100V to < 250V) in accordance with ANSI/ESD STM 5.2 - 1999

Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED

For detailed performance specs & shipping 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

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-Circuit's 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. A
M112849
MP4-ED12616A/7-17
WP4F1+
RS/CP/QL
090827