

Power Splitter/Combiner

4 Way-0° 50Ω 3400 to 4600 MHz

WP4S+



Generic photo used for illustration purposes only
CASE STYLE: DQ1225

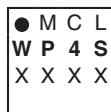
Maximum Ratings

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.	

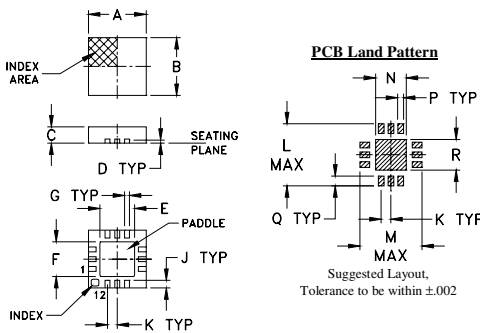
Pad Connections

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



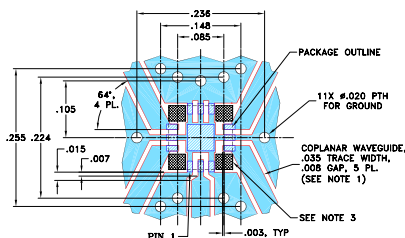
Outline Drawing



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:

1. 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.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
3. 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

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

Features

- excellent isolation, 30 dB typ.
- good phase unbalance, 2 deg. typ.
- good amplitude unbalance, 0.2 dB typ.
- small size, 0.118" x 0.118" x 0.035"
- high ESD level
- aqueous washable

Applications

- line-of-sight links
- satellite down link
- WIMAX

Electrical Specifications

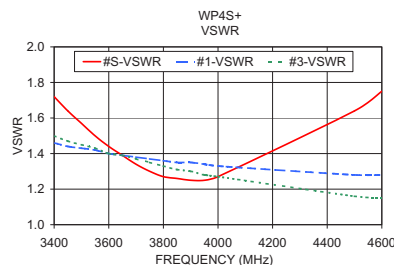
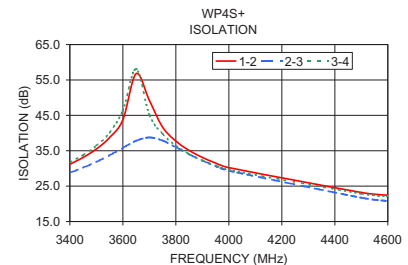
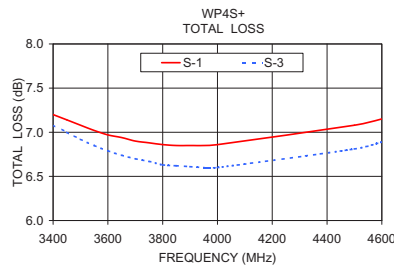
FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS* (dB) ABOVE 6.0 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)	VSWR (:1) Typ.	
$f_c - f_u$	Typ.	Min.	Typ.	Max.	Max.	Max.	Port S	Ports 1,2,3,4
3400-4600	30	16	0.8	1.8	9	0.6	1.5	1.3
3700-4200	30	20	0.8	1.4	8	0.6	1.3	1.3

*Includes test fixture loss, 0.25 dB typ.

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						
3400.00	7.20	7.13	7.08	7.17	0.13	31.19	28.78	31.70	1.61	1.72	1.46	1.49	1.50	1.46
3450.00	7.14	7.05	7.00	7.10	0.14	33.09	30.21	33.77	1.41	1.64	1.44	1.47	1.47	1.44
3500.00	7.08	6.98	6.92	7.04	0.16	35.48	31.85	36.41	1.25	1.57	1.43	1.45	1.45	1.43
3550.00	7.02	6.91	6.85	6.98	0.17	38.72	33.73	40.13	1.02	1.50	1.42	1.43	1.43	1.42
3600.00	6.97	6.85	6.79	6.93	0.18	43.77	35.81	46.42	0.87	1.44	1.40	1.41	1.40	1.40
3650.00	6.94	6.80	6.74	6.90	0.19	56.77	37.82	58.11	0.67	1.39	1.39	1.39	1.39	1.39
3700.00	6.90	6.75	6.70	6.86	0.20	49.22	38.76	45.12	0.50	1.34	1.38	1.37	1.37	1.38
3750.00	6.88	6.72	6.67	6.83	0.22	41.67	37.88	39.73	0.31	1.30	1.37	1.36	1.35	1.37
3800.00	6.86	6.69	6.63	6.81	0.22	37.73	36.01	36.42	0.26	1.27	1.36	1.34	1.33	1.36
3850.00	6.85	6.67	6.62	6.80	0.24	35.10	34.00	34.10	0.44	1.26	1.35	1.32	1.31	1.35
3900.00	6.85	6.66	6.61	6.80	0.24	33.11	32.23	32.30	0.63	1.25	1.35	1.31	1.30	1.35
3950.00	6.85	6.65	6.60	6.80	0.26	31.52	30.69	30.83	0.77	1.25	1.34	1.29	1.28	1.34
4000.00	6.86	6.65	6.60	6.80	0.26	30.21	29.36	29.60	0.95	1.27	1.33	1.28	1.27	1.33
4500.00	7.08	6.86	6.81	7.05	0.27	23.21	21.71	22.87	2.37	1.64	1.28	1.17	1.16	1.29
4600.00	7.15	6.94	6.89	7.12	0.26	22.42	20.80	22.10	2.67	1.75	1.28	1.16	1.15	1.29

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



electrical schematic



ESD Rating

Human Body Model (HBM): Class 1A (250 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



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