

MMIC Surface Mount Power Splitter/Combiner

4 Way-0° 50Ω 3400 to 4600 MHz

WP4S+



Generic photo used for illustration purposes only
CASE STYLE: DQ1225

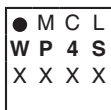
Maximum Ratings

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.	

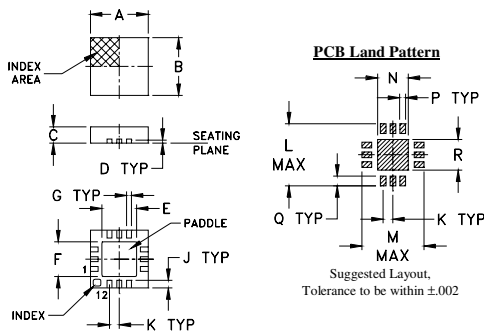
Pad Connections

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



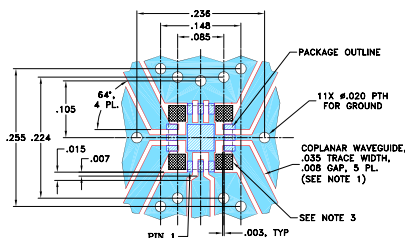
Outline Drawing



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:
- 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.
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Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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/WCLStore/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

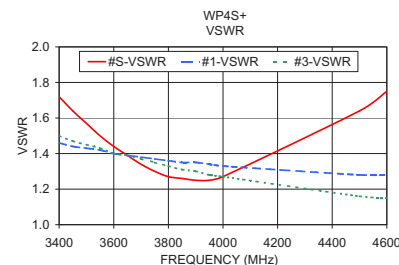
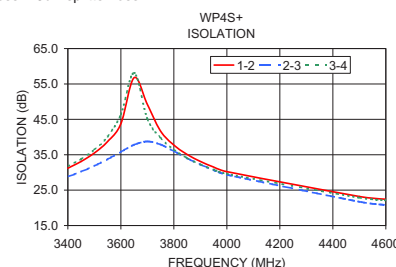
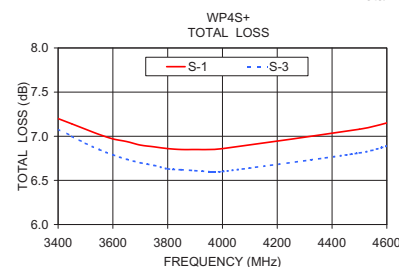
FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS* (dB) ABOVE 6.0 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)	VSWR (:1) Typ.	
	Typ.	Min.	Typ.	Max.			Port S	Ports 1,2,3,4
f _L -f _H					Max.	Max.		
3400-4600	30	16	0.8	1.8	9	0.6	1.5	1.3
3700-4200	30	20	0.8	1.4	8	0.6	1.3	1.3

*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 (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



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