



MMIC SURFACE MOUNT

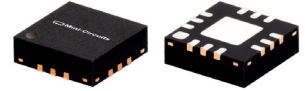
Power Splitter/Combiner

WP4W1+

4 Way-0° 50Ω 3000 to 4200 MHz

FEATURES

- Excellent Isolation, Typ. 26 dB
- Good Phase Unbalance, Max. 9 deg.
- Good Amplitude Unbalance, Max. 0.5 dB
- Small Size, 3x3 mm
- High ESD Level
- Aqueous Washable



Generic photo used for illustration purposes only

CASE STYLE: DQ1225

+RoHS Compliant

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

APPLICATIONS

- Line-of-Sight Links
- Satellite Down Link
- WIMAX
- Radar

ELECTRICAL SPECIFICATIONS AT +25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Frequency Range		3000		4200	MHz
Insertion Loss* (Above 6.0 dB)	3000-4200		0.9	1.9	dB
Isolation	3000-4200	17	26		dB
Amplitude Unbalance	3000-4200			0.5	dB
Phase Unbalance	3000-4200			9	deg.
VSWR (Port S)	3000-4200		1.7		:1
VSWR (Ports 1,2,3,4)	3000-4200		1.3		:1

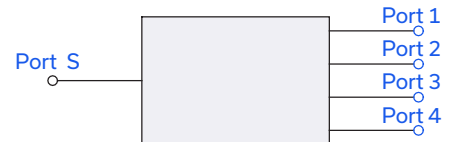
*Includes test fixture loss, 0.3 dB typ.

ABSOLUTE MAXIMUM RATINGS

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

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

ELECTRICAL SCHEMATIC





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Power Splitter/Combiner

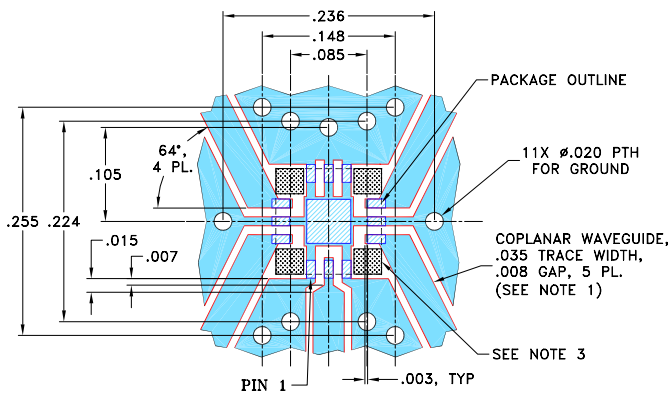
WP4W1+

4 Way-0° 50Ω 3000 to 4200 MHz

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

DEMO BOARD MCL P/N: TB-WP4W1+ SUGGESTED PCB LAYOUT (PL-259)

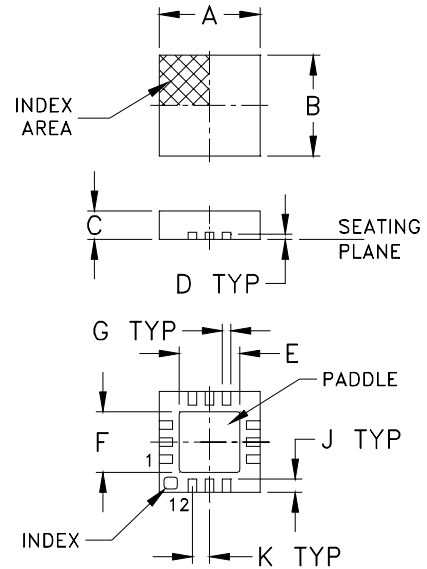


NOTES:

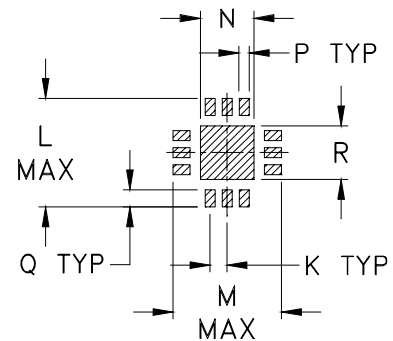
- TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
- BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- SIGNAL TRACES ARE NOT ALLOWED INSIDE HATCHED AREAS (APPROX. .030 X .030) AT 4 PLACES AS SHOWN.

- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

OUTLINE DRAWING

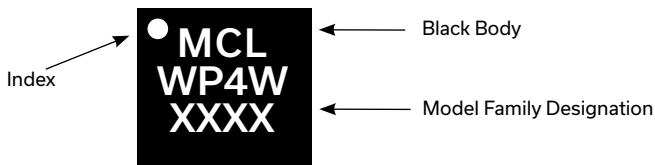


PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

PRODUCT MARKING



Marking may contain other features or characters for internal lot control.

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	

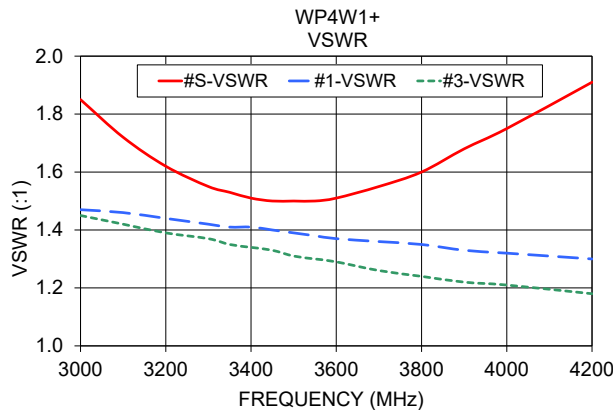
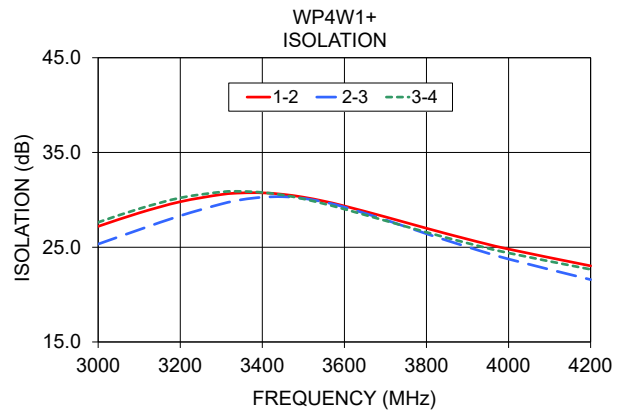
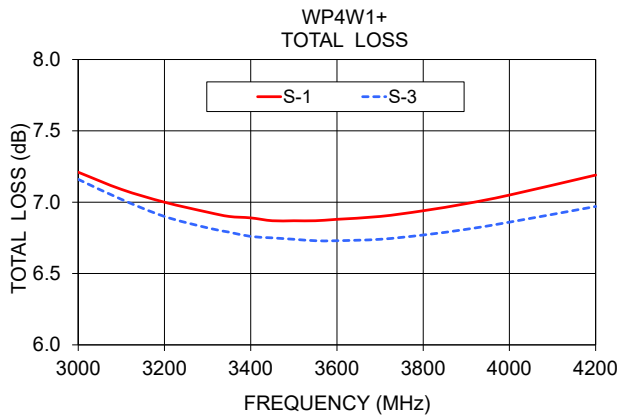
TAPE & REEL INFORMATION: F66



TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (MHz)	Total Loss ¹ (dB)				Amplitude Unbalance (dB)	Isolation (dB)			Phase Unbalance (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						
3000.00	7.21	7.24	7.16	7.17	0.07	27.20	25.33	27.63	2.26	1.85	1.47	1.43	1.45	1.48
3100.00	7.09	7.10	7.02	7.05	0.08	28.62	26.85	29.06	1.87	1.72	1.46	1.40	1.42	1.46
3200.00	7.00	6.98	6.90	6.96	0.09	29.80	28.32	30.21	1.54	1.62	1.44	1.37	1.39	1.45
3300.00	6.93	6.89	6.82	6.89	0.11	30.56	29.56	30.83	1.15	1.55	1.42	1.34	1.37	1.44
3350.00	6.90	6.85	6.79	6.87	0.11	30.73	30.02	30.89	1.21	1.53	1.41	1.33	1.35	1.43
3400.00	6.89	6.83	6.76	6.86	0.12	30.74	30.27	30.78	1.40	1.51	1.41	1.32	1.34	1.42
3450.00	6.87	6.81	6.75	6.85	0.12	30.58	30.33	30.51	1.58	1.50	1.40	1.31	1.33	1.42
3500.00	6.87	6.80	6.74	6.84	0.13	30.28	30.15	30.10	1.76	1.50	1.39	1.29	1.31	1.41
3550.00	6.87	6.79	6.73	6.85	0.14	29.86	29.77	29.59	1.99	1.50	1.38	1.28	1.30	1.40
3600.00	6.88	6.79	6.73	6.85	0.15	29.35	29.23	29.02	2.17	1.51	1.37	1.27	1.29	1.39
3700.00	6.90	6.79	6.74	6.87	0.16	28.20	27.89	27.80	2.56	1.55	1.36	1.25	1.26	1.38
3800.00	6.94	6.81	6.77	6.92	0.17	27.00	26.42	26.58	2.93	1.60	1.35	1.23	1.24	1.36
3900.00	6.99	6.85	6.81	6.97	0.18	25.85	25.03	25.43	3.30	1.68	1.33	1.21	1.22	1.35
4000.00	7.05	6.90	6.86	7.03	0.20	24.80	23.75	24.39	3.65	1.75	1.32	1.19	1.21	1.34
4200.00	7.19	7.02	6.97	7.17	0.22	23.03	21.58	22.66	4.34	1.91	1.30	1.17	1.18	1.32

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



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/terms/viewterm.html