



MMIC SURFACE MOUNT

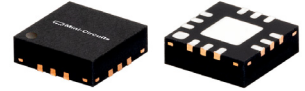
Power Splitter/Combiner

WP4R1+

4 Way-0° 50Ω 2000 to 3000 MHz

FEATURES

- Excellent isolation, 24 dB typ.
- Good phase unbalance 2 deg. typ.
- Good amplitude unbalance, 0.15 dB typ.
- Small size, .118" x .118" x .035"
- 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

- WLAN
- WIMAX
- ISM
- Radar

ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Frequency Range		2000		3000	MHz
Insertion Loss* (above 6.0 dB)	2000-3000	—	0.7	2.1	dB
Isolation	2000-3000	16	24	—	dB
Amplitude Unbalance	2000-3000	—	—	0.5	dB
Phase Unbalance	2000-3000	—	—	7	deg.
VSWR (Port S)	2000-3000	—	1.6	—	:1
VSWR (Ports 1,2,3,4)	2000-3000	—	1.35	—	:1

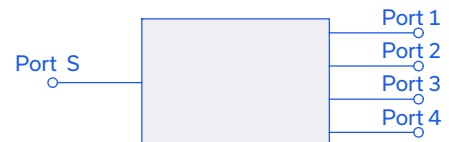
* Includes fixture loss, 0.2 dB typ.

MAXIMUM RATINGS

Parameter	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.

ELECTRICAL SCHEMATIC





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Power Splitter/Combiner

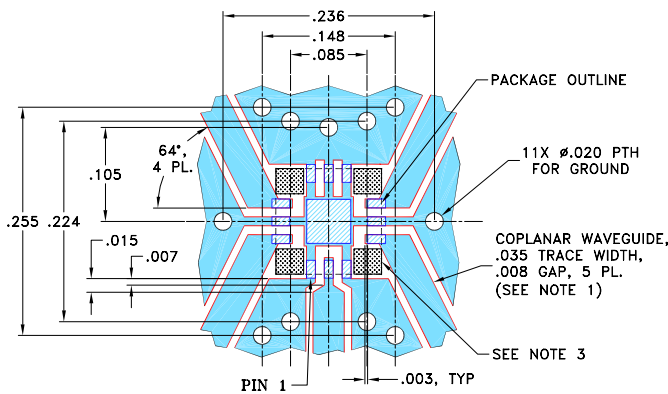
WP4R1+

4 Way-0° 50Ω 2000 to 3000 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-395+ SUGGESTED PCB LAYOUT (PL-259)

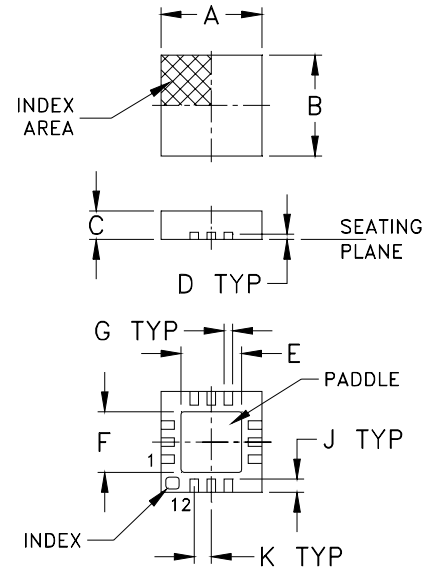


NOTES:

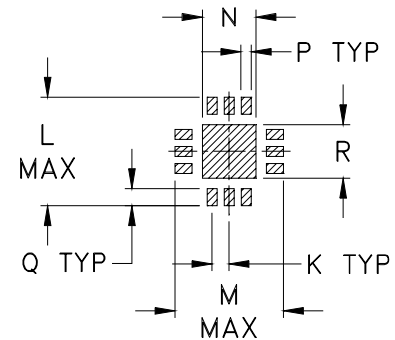
- TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
- BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- SIGNAL TRACES ARE NOT ALLOWED INSIDE HATCHED AREAS (APPROX. .030 X .030)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

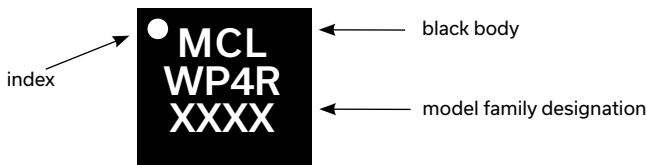


PCB Land Pattern



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

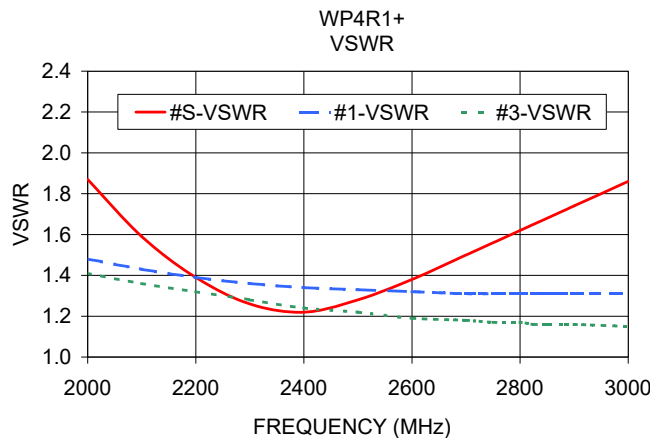
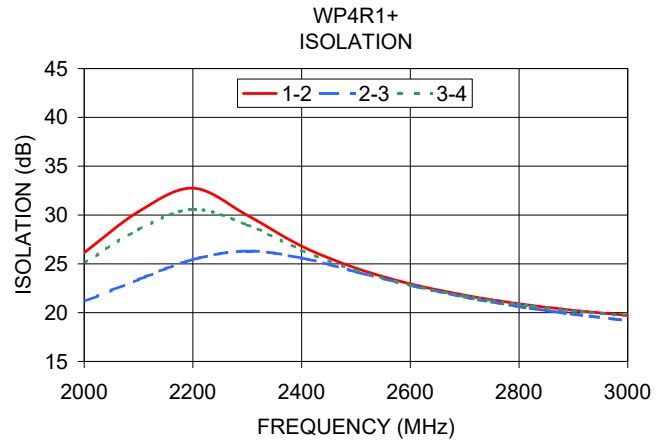
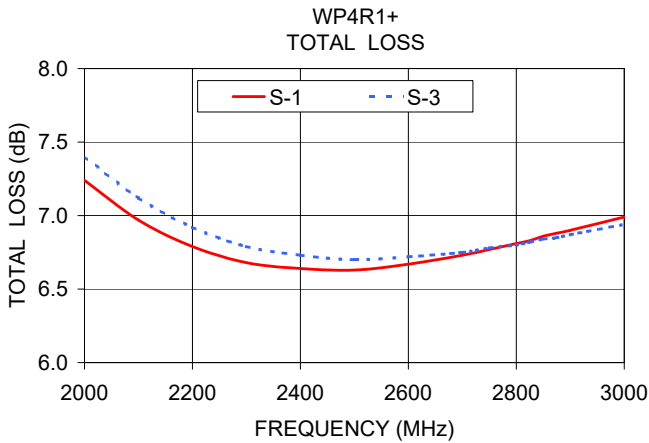
TAPE & REEL INFORMATION: F66



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						
2000.00	7.24	7.42	7.40	7.23	0.19	26.14	21.14	25.08	1.94	1.87	1.48	1.40	1.41	1.42
2100.00	6.97	7.14	7.12	6.97	0.17	30.35	23.40	28.53	1.49	1.59	1.43	1.35	1.36	1.38
2200.00	6.79	6.94	6.92	6.79	0.15	32.75	25.44	30.58	1.06	1.39	1.39	1.31	1.32	1.34
2300.00	6.68	6.81	6.79	6.69	0.13	29.97	26.31	28.98	0.68	1.26	1.36	1.26	1.28	1.31
2400.00	6.64	6.74	6.73	6.64	0.11	26.81	25.59	26.40	0.79	1.22	1.34	1.23	1.24	1.29
2500.00	6.63	6.72	6.70	6.64	0.09	24.56	24.19	24.33	1.19	1.28	1.33	1.20	1.22	1.28
2600.00	6.67	6.74	6.72	6.68	0.07	22.95	22.80	22.80	1.57	1.38	1.32	1.18	1.19	1.27
2700.00	6.73	6.78	6.75	6.73	0.05	21.79	21.60	21.67	1.94	1.50	1.31	1.17	1.18	1.27
2750.00	6.77	6.81	6.78	6.77	0.04	21.32	21.09	21.23	2.12	1.56	1.31	1.16	1.17	1.27
2800.00	6.81	6.83	6.80	6.81	0.03	20.91	20.63	20.82	2.30	1.62	1.31	1.15	1.17	1.27
2825.00	6.83	6.85	6.82	6.83	0.03	20.73	20.42	20.65	2.39	1.65	1.31	1.15	1.16	1.27
2850.00	6.86	6.87	6.84	6.85	0.03	20.55	20.21	20.48	2.46	1.68	1.31	1.15	1.16	1.27
2875.00	6.88	6.89	6.85	6.87	0.04	20.40	20.02	20.32	2.56	1.71	1.31	1.15	1.16	1.27
2900.00	6.90	6.91	6.87	6.89	0.04	20.24	19.84	20.17	2.64	1.74	1.31	1.14	1.16	1.27
3000.00	6.99	6.99	6.94	6.98	0.05	19.72	19.18	19.66	2.96	1.86	1.31	1.14	1.15	1.27

1. Total Loss = Insertion Loss + 6dB 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.
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