



MMIC SURFACE MOUNT

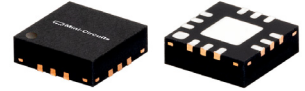
Power Splitter/Combiner

WP4R+

4 Way-0° 50Ω 2300 to 2700 MHz

FEATURES

- Excellent isolation, 26 dB typ.
- Good phase unbalance 2 deg. typ.
- Good amplitude unbalance, 0.1 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

ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Frequency Range		2300		2700	MHz
Insertion Loss* (above 6.0 dB)	2300-2700	—	0.7	1.4	dB
Isolation	2300-2700	18	26	—	dB
Amplitude Unbalance	2300-2700	—	—	0.4	dB
Phase Unbalance	2300-2700	—	—	6	deg.
VSWR (Port S)	2300-2700	—	1.35	—	:1
VSWR (Ports 1,2,3,4)	2300-2700	—	1.35	—	:1

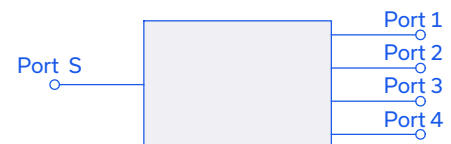
*Includes fixture loss, 0.2 dB typ.

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



REV. D
ECO-015507
WP4R+
MCL NY
221025





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Power Splitter/Combiner

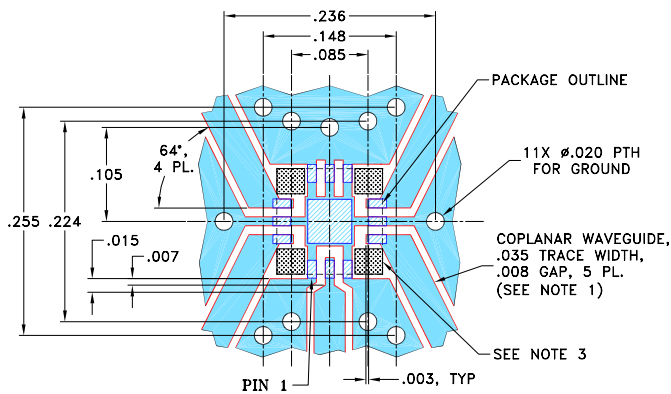
WP4R+

4 Way-0° 50Ω 2300 to 2700 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)

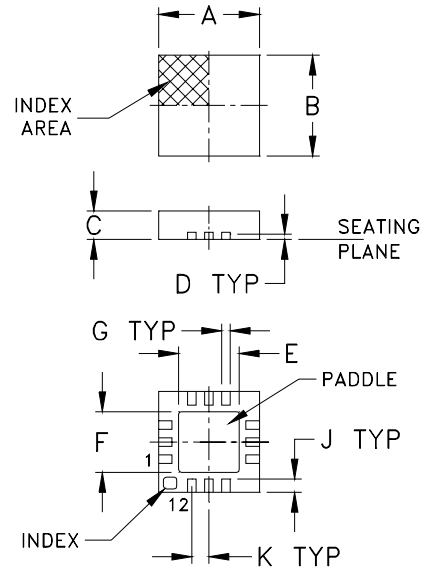


NOTES:

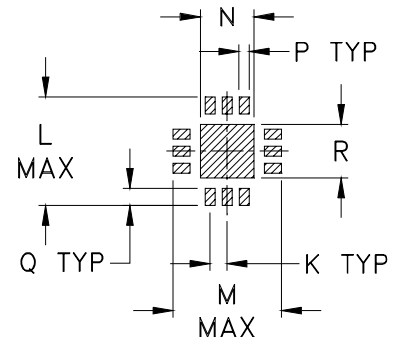
- TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
- BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- SIGNAL TRACES ARE NOT ALLOWED INSIDE HATCHED AREAS (APPROX. .030 X .030)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

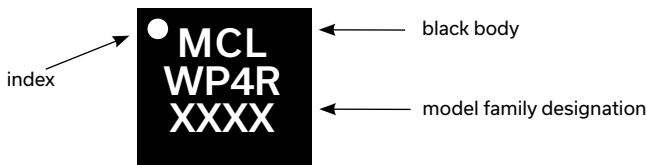


PCB Land Pattern



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	

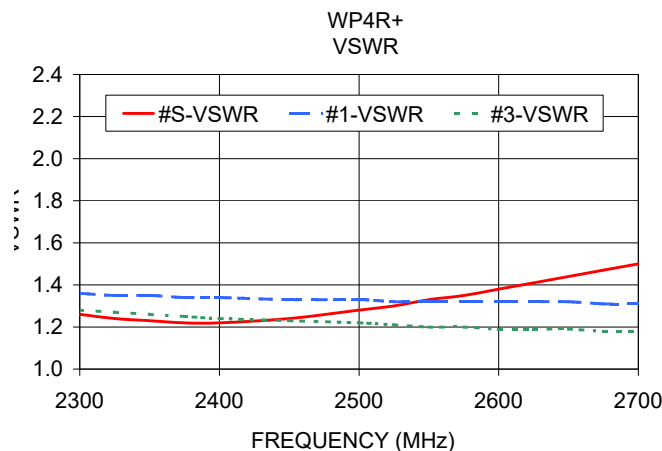
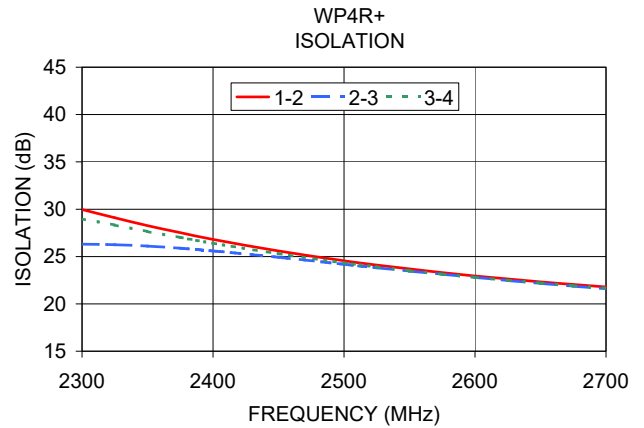
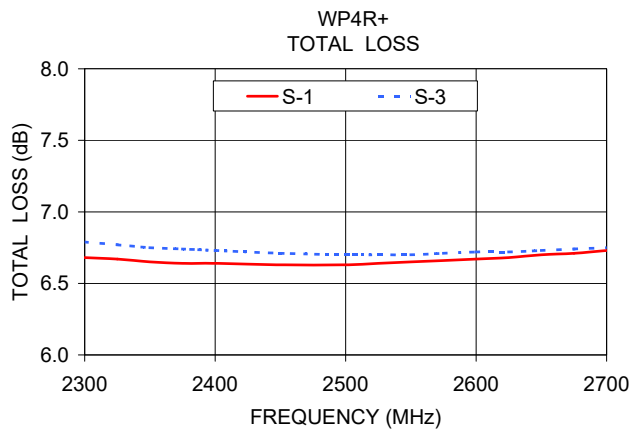
TAPE & REEL INFORMATION: F66



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						
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
2325.00	6.67	6.79	6.77	6.67	0.12	29.10	26.25	28.32	0.65	1.24	1.35	1.25	1.27	1.30
2350.00	6.65	6.77	6.75	6.66	0.12	28.27	26.10	27.65	0.67	1.23	1.35	1.25	1.26	1.30
2375.00	6.64	6.76	6.74	6.65	0.12	27.52	25.88	27.01	0.70	1.22	1.34	1.24	1.25	1.30
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
2450.00	6.63	6.73	6.71	6.64	0.10	25.59	24.92	25.29	0.96	1.24	1.33	1.21	1.23	1.28
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
2525.00	6.64	6.73	6.70	6.65	0.08	24.10	23.82	23.91	1.30	1.30	1.32	1.20	1.21	1.28
2550.00	6.65	6.73	6.70	6.65	0.08	23.69	23.46	23.51	1.39	1.33	1.32	1.19	1.20	1.27
2575.00	6.66	6.73	6.71	6.66	0.07	23.30	23.13	23.14	1.47	1.35	1.32	1.19	1.20	1.27
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
2625.00	6.68	6.75	6.72	6.69	0.06	22.63	22.47	22.49	1.67	1.41	1.32	1.18	1.19	1.27
2650.00	6.70	6.76	6.73	6.70	0.06	22.33	22.17	22.20	1.75	1.44	1.32	1.17	1.19	1.27
2675.00	6.71	6.77	6.74	6.72	0.05	22.05	21.87	21.92	1.85	1.47	1.31	1.17	1.18	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

* Includes fixture loss, 0.2 dB typ.



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

