





## MMIC SURFACE MOUNT

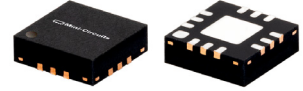
# Power Splitter/Combiner

# WP4C1+

4 Way-0° 50Ω 800 to 1150 MHz

### FEATURES

- Low insertion loss, 0.7 dB typ.
- Excellent isolation, 22 dB typ.
- Good phase unbalance, 0.6 deg. typ.
- Good amplitude unbalance, 0.2 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

- Cellular
- WCDMA
- GSM
- Radar

### ELECTRICAL SPECIFICATIONS AT 25°C

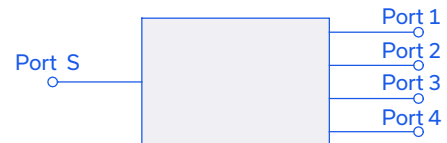
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Frequency Range		800		1150	MHz
Insertion Loss (above 6.0 dB)	800-1150	—	0.7	1.6	dB
Isolation	800-1150	15	22	—	dB
Amplitude Unbalance	800-1150	—	—	0.5	dB
Phase Unbalance	800-1150	—	—	4	deg.
VSWR (Port S)	800-1150	—	1.5	—	:1
VSWR (Ports 1,2,3,4)	800-1150	—	1.4	—	:1

### 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  
WP4C1+  
MCL NY  
221025





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# WP4C1+

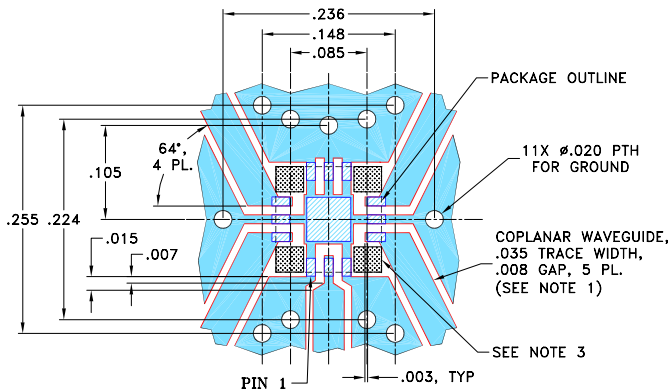
Mini-Circuits

4 Way-0° 50Ω 800 to 1150 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)

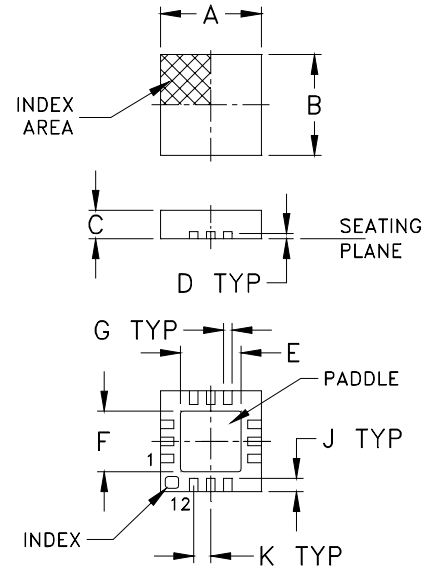


#### NOTES:

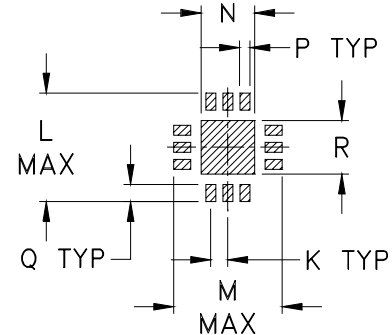
- TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
- BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- SIGNAL TRACES ARE NOT ALLOWED INSIDE HATCHED AREAS (APPROX. .030 X .030)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

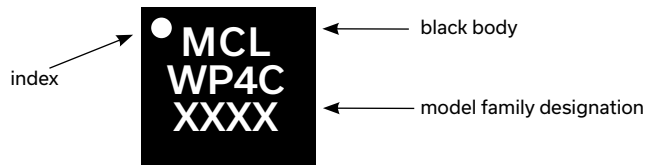


### PCB Land Pattern



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	

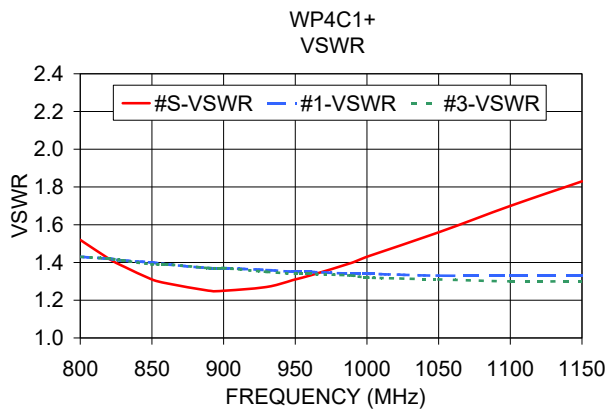
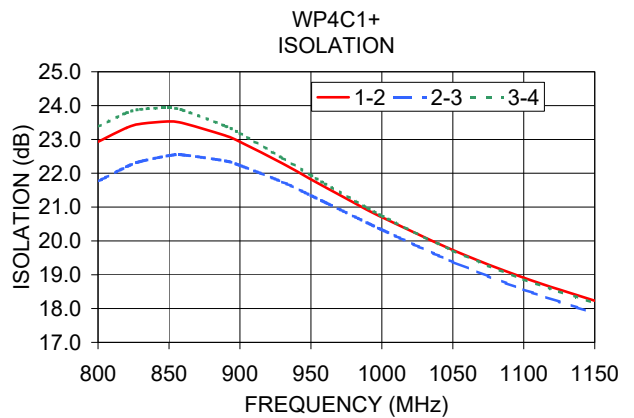
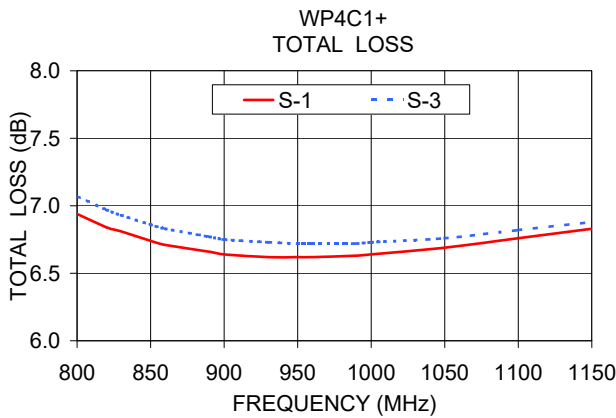
### TAPE & REEL INFORMATION: F66



### TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (MHz)	Total Loss <sup>1</sup> (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						
800.00	6.94	7.11	7.07	6.91	0.20	22.93	21.76	23.38	0.75	1.52	1.43	1.43	1.43	1.42
820.00	6.84	7.02	6.97	6.82	0.20	23.34	22.19	23.78	0.66	1.42	1.42	1.41	1.42	1.40
830.00	6.81	6.98	6.93	6.78	0.20	23.46	22.35	23.89	0.62	1.38	1.41	1.41	1.41	1.40
850.00	6.74	6.91	6.86	6.71	0.19	23.53	22.52	23.93	0.54	1.31	1.40	1.40	1.39	1.38
860.00	6.71	6.88	6.83	6.68	0.19	23.48	22.54	23.86	0.50	1.29	1.39	1.39	1.39	1.38
890.00	6.66	6.82	6.77	6.62	0.20	23.11	22.36	23.39	0.38	1.25	1.37	1.37	1.37	1.36
900.00	6.64	6.80	6.75	6.61	0.19	22.93	22.23	23.18	0.34	1.25	1.37	1.37	1.37	1.36
930.00	6.62	6.78	6.73	6.59	0.19	22.29	21.74	22.45	0.33	1.27	1.36	1.35	1.35	1.35
950.00	6.62	6.77	6.72	6.58	0.19	21.82	21.34	21.94	0.31	1.31	1.35	1.34	1.34	1.34
960.00	6.62	6.77	6.72	6.58	0.19	21.59	21.14	21.69	0.32	1.33	1.35	1.34	1.34	1.33
990.00	6.63	6.78	6.72	6.59	0.19	20.91	20.53	20.97	0.37	1.40	1.34	1.33	1.33	1.33
1000.00	6.64	6.78	6.73	6.60	0.18	20.70	20.33	20.74	0.40	1.43	1.34	1.33	1.32	1.33
1050.00	6.69	6.83	6.76	6.64	0.18	19.73	19.38	19.71	0.57	1.56	1.33	1.32	1.31	1.32
1100.00	6.76	6.88	6.82	6.71	0.17	18.91	18.56	18.86	0.73	1.70	1.33	1.31	1.30	1.31
1150.00	6.83	6.95	6.88	6.78	0.17	18.23	17.86	18.16	0.90	1.83	1.33	1.31	1.30	1.32

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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