



MMIC SURFACE MOUNT

Power Splitter/Combiner

WP4G1+

Mini-Circuits

4 Way-0° 50Ω 1300 to 2000 MHz

FEATURES

- Excellent isolation, 26 dB typ.
- Excellent phase unbalance 1 deg. typ.
- Excellent amplitude unbalance, 0.25 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

- GPS
- PCS
- DCS
- WCDMA

ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Frequency Range		1300		2000	MHz
Insertion Loss* (above 6.0 dB)	1300-2000	—	0.8	1.9	dB
Isolation	1300-2000	14	26	—	dB
Amplitude Unbalance	1300-2000	—	—	0.5	dB
Phase Unbalance	1300-2000	—	—	5	deg.
VSWR (Port S)	1300-2000	—	1.5	—	:1
VSWR (Ports 1,2,3,4)	1300-2000	—	1.4	—	:1

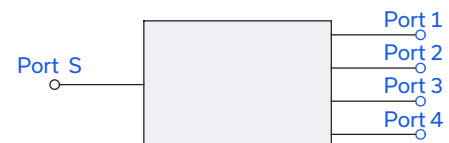
* Includes fixture loss, 0.12 dB typ.

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
WP4G1+
MCL NY
221025





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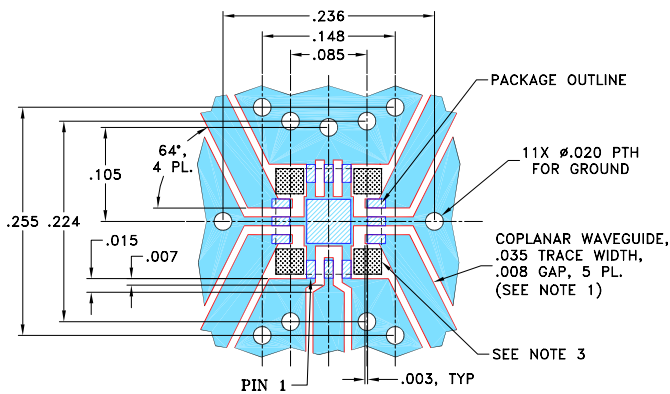
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PAD CONNECTIONS

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)

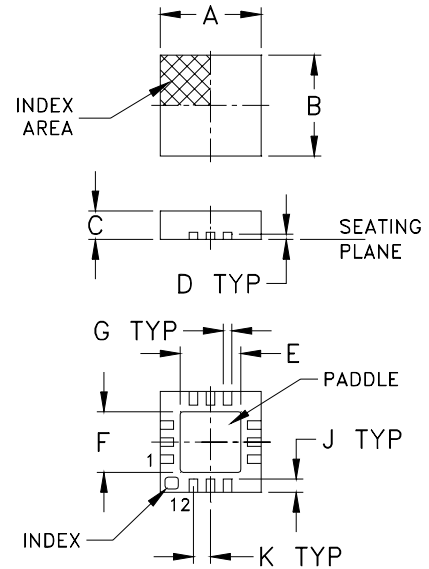


NOTES:

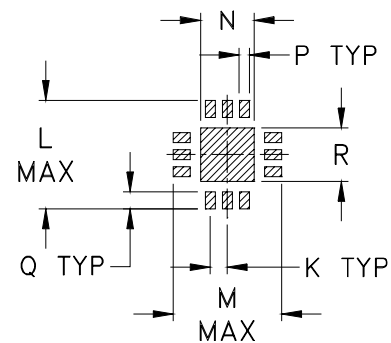
- TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
- BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- SIGNAL TRACES ARE NOT ALLOWED INSIDE HATCHED AREAS (APPROX. .030 X .030)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

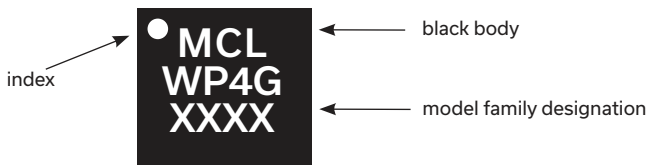


PCB Land Pattern



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						
1300.00	7.18	7.31	7.24	7.11	0.20	26.81	23.73	27.28	1.41	1.79	1.58	1.55	1.53	1.54
1360.00	6.94	7.05	6.98	6.86	0.19	30.94	26.53	31.87	1.19	1.53	1.54	1.51	1.49	1.50
1400.00	6.82	6.93	6.86	6.75	0.18	33.52	28.41	34.73	1.03	1.39	1.52	1.48	1.46	1.48
1450.00	6.72	6.82	6.75	6.65	0.17	33.24	29.81	33.68	0.88	1.25	1.49	1.45	1.43	1.45
1500.00	6.66	6.75	6.68	6.59	0.16	30.25	29.21	30.14	0.87	1.16	1.47	1.43	1.41	1.43
1550.00	6.63	6.71	6.64	6.56	0.15	27.52	27.41	27.30	0.92	1.15	1.45	1.41	1.39	1.41
1570.00	6.63	6.70	6.63	6.55	0.15	26.62	26.63	26.39	0.92	1.17	1.45	1.40	1.38	1.41
1580.00	6.63	6.70	6.63	6.55	0.14	26.21	26.25	25.97	0.93	1.18	1.44	1.39	1.37	1.41
1590.00	6.62	6.69	6.62	6.55	0.14	25.82	25.89	25.57	0.93	1.20	1.44	1.39	1.37	1.40
1600.00	6.63	6.69	6.62	6.55	0.14	25.45	25.52	25.20	0.95	1.21	1.44	1.39	1.36	1.40
1650.00	6.64	6.70	6.63	6.57	0.13	23.85	23.90	23.60	1.14	1.29	1.43	1.37	1.35	1.39
1700.00	6.67	6.71	6.65	6.60	0.12	22.59	22.54	22.35	1.36	1.38	1.43	1.36	1.34	1.39
1800.00	6.75	6.77	6.71	6.68	0.09	20.73	20.47	20.50	1.73	1.57	1.42	1.35	1.33	1.39
1900.00	6.85	6.85	6.79	6.78	0.07	19.44	18.96	19.22	2.09	1.74	1.43	1.35	1.32	1.39
2000.00	6.95	6.94	6.87	6.89	0.08	18.50	17.82	18.27	2.40	1.90	1.44	1.35	1.33	1.40

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

