

Surface Mount

# Power Splitter/Combiner

## WP4C+

4 Way-0° 50Ω 810 to 960 MHz



### Maximum Ratings

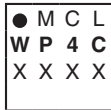
Operating Temperature	-40°C to 85°C
Storage Temperature	-65°C to 150°C
Power Input (as a splitter)	1.5W max.
Internal Dissipation	0.375W max.

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

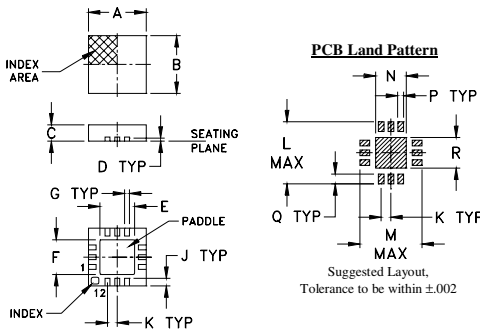
### Pad Connections

SUM PORT	2
PORT 1	12
PORT 2	10
PORT 3	6
PORT 4	4
GROUND	1,3,5,7,8,9,11, paddle

### Product Marking



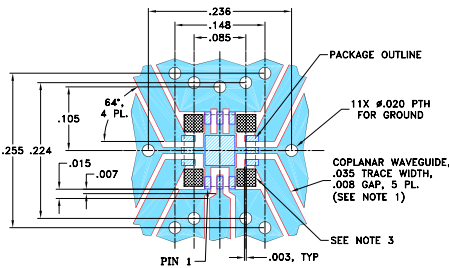
### Outline Drawing



### 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	

### Demo Board MCL P/N: TB-395+ Suggested PCB Layout (PL-259)



- NOTES:
- TRACE WIDTH IS SHOWN FOR ROGERS RO4350B 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

### Features

- low insertion loss, 0.8 dB typ.
- excellent isolation, 24 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

### Applications

- cellular
- WCDMA
- GSM
- radar

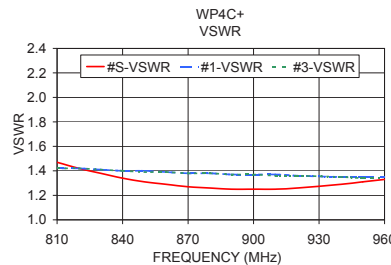
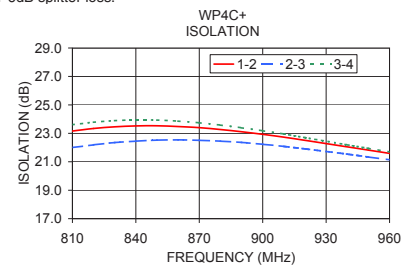
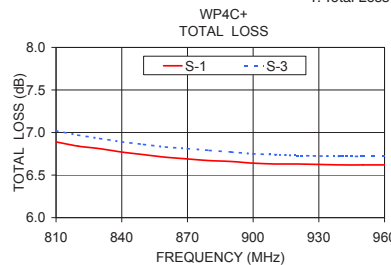
### Electrical Specifications

FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) ABOVE 6.0 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)	VSWR (:1) Typ.	
	Typ.	Min.	Typ.	Max.			Port S	Ports 1,2,3,4
f <sub>L</sub> -f <sub>U</sub>					Max.	Max.		
810-960	24	18	0.8	1.6	3	0.5	1.35	1.4

### Typical Performance Data

Freq. (MHz)	Total Loss <sup>1</sup> (dB)				Amp. Unbal. (dB)	Isolation (dB)			Phase Unbal. (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						
810.00	6.89	7.07	7.02	6.86	0.20	23.16	22.00	23.61	0.70	1.47	1.42	1.42	1.42	1.41
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
840.00	6.77	6.94	6.89	6.74	0.20	23.52	22.45	23.94	0.56	1.34	1.40	1.40	1.40	1.39
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
870.00	6.69	6.85	6.81	6.66	0.19	23.40	22.51	23.74	0.45	1.27	1.38	1.38	1.38	1.37
880.00	6.67	6.83	6.79	6.64	0.19	23.27	22.45	23.58	0.41	1.26	1.38	1.38	1.38	1.37
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
910.00	6.63	6.79	6.74	6.60	0.19	22.73	22.08	22.95	0.33	1.25	1.37	1.36	1.36	1.35
920.00	6.63	6.78	6.73	6.59	0.19	22.51	21.91	22.70	0.32	1.26	1.36	1.36	1.36	1.35
940.00	6.62	6.77	6.72	6.58	0.19	22.05	21.54	22.19	0.32	1.29	1.35	1.35	1.35	1.34
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

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



### electrical schematic



### ESD Rating

Human Body Model (HBM): Class 1A (250 to < 500V) in accordance with ANSI/ESD STM 5.1 - 2001  
Machine Model (MM): Class M2 (100V to < 250V) in accordance with ANSI/ESD STM 5.2 - 1999



For detailed performance specs & shipping online see web site

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IF/RF MICROWAVE COMPONENTS

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M127604  
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