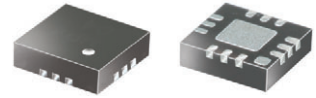


Surface Mount

# Power Splitter/Combiner

WP4A+

4 Way-0° 50Ω 5100 to 6500 MHz



CASE STYLE: DQ1225  
PRICE: \$1.69 ea. QTY. (25)

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

## Maximum Ratings

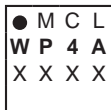
Operating Temperature	-40°C to 85°C
Storage Temperature	-65°C to 150°C
Power Input (as a splitter)	1.5W max.
Internal Dissipation	0.375W max.

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

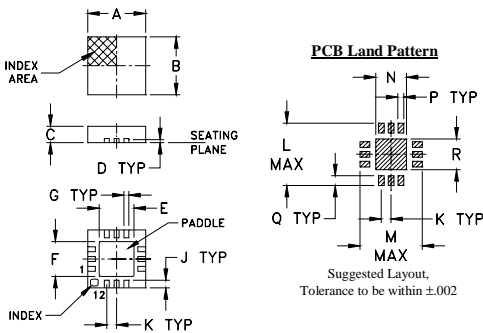
## Pad Connections

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



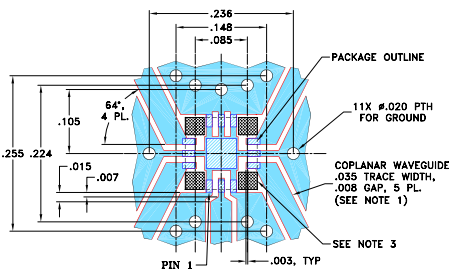
## Outline Drawing



## 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

- excellent isolation, 25 dB typ.
- good phase unbalance, 3 deg. typ.
- good amplitude unbalance, 0.15 dB typ.
- small size, .118" x .118" x .035"
- high ESD level
- aqueous washable

## Applications

- WLAN
- WIMAX
- ISM
- radar
- satellite up-link

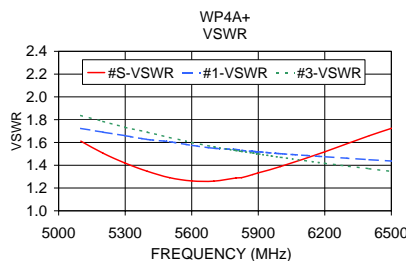
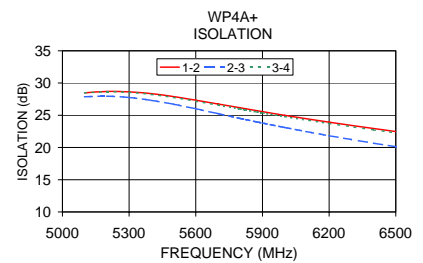
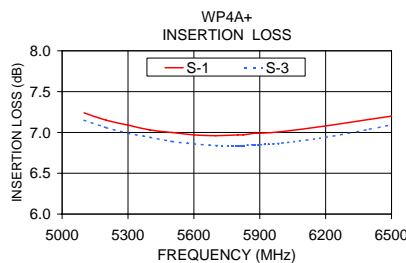
## Electrical Specifications

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.	Max.	Max.	Port S	Ports 1,2,3,4
f <sub>L</sub> -f <sub>U</sub>								
5100-6500	25	15	0.9	2.0	8	0.5	1.5	1.6

\* Includes fixture loss, 0.3 dB typ.

## Typical Performance Data

Freq. (MHz)	Insertion Loss (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						
5100.00	7.24	7.16	7.15	7.22	0.09	28.47	27.87	28.48	4.01	1.61	1.72	1.81	1.84	1.75
5200.00	7.15	7.08	7.06	7.13	0.09	28.69	27.96	28.64	3.84	1.51	1.69	1.76	1.78	1.72
5300.00	7.09	7.00	6.99	7.07	0.09	28.63	27.76	28.55	3.65	1.42	1.66	1.71	1.73	1.69
5400.00	7.03	6.94	6.94	7.02	0.09	28.35	27.32	28.23	3.40	1.35	1.63	1.67	1.69	1.66
5500.00	7.00	6.90	6.89	6.98	0.10	27.89	26.71	27.76	3.17	1.29	1.61	1.63	1.64	1.63
5600.00	6.97	6.88	6.86	6.95	0.11	27.34	26.01	27.19	2.96	1.26	1.58	1.59	1.60	1.60
5700.00	6.96	6.87	6.84	6.94	0.12	26.75	25.25	26.57	2.71	1.26	1.55	1.55	1.56	1.58
5800.00	6.97	6.87	6.84	6.96	0.13	26.16	24.51	25.97	2.53	1.29	1.54	1.52	1.53	1.57
5825.00	6.97	6.87	6.84	6.95	0.13	26.00	24.33	25.81	2.42	1.29	1.53	1.52	1.52	1.56
5875.00	6.99	6.89	6.85	6.97	0.14	25.71	23.97	25.51	2.35	1.32	1.52	1.50	1.51	1.55
5900.00	6.99	6.90	6.85	6.97	0.14	25.57	23.80	25.37	2.33	1.33	1.52	1.50	1.50	1.55
6000.00	7.01	6.93	6.87	6.99	0.15	24.99	23.11	24.79	2.18	1.39	1.50	1.47	1.47	1.52
6200.00	7.08	7.01	6.94	7.06	0.14	23.93	21.83	23.73	1.85	1.52	1.47	1.42	1.42	1.50
6400.00	7.16	7.11	7.04	7.14	0.12	22.94	20.67	22.74	1.52	1.66	1.45	1.38	1.37	1.47
6600.00	7.24	7.20	7.15	7.21	0.09	22.00	19.59	21.82	1.05	1.79	1.43	1.34	1.32	1.43



## electrical schematic



## ESD Rating

Human Body Model (HBM): Class 1A (250V 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 & shopping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

IF/RF MICROWAVE COMPONENTS

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuit's 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-Circuit's website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp).

Rev. A  
M112849  
MP4-ED-126167\_(19)  
WP4A+  
RS/CP/QL  
090626