



**THE DATASHEET OF  
ADPQ-2-250+**



# Surface Mount Power Splitter/Combiner

## ADPQ-2-250+ ADPQ-2-250

2 Way-90° 50Ω 150 to 250 MHz

### Maximum Ratings

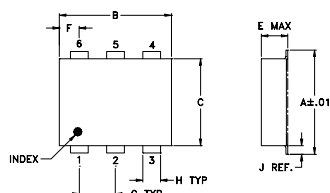
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.

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

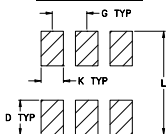
### Pin Connections

SUM PORT	6
PORT 1 (0°)	4
PORT 2 (+90°)	1
GROUND	2,5
50 OHM TERM EXTERNAL	3

### Outline Drawing



#### PCB Land Pattern

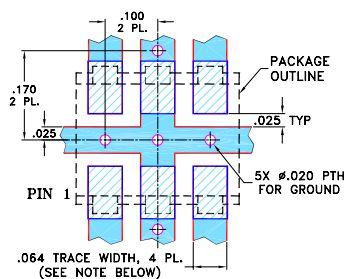


Suggested Layout,  
Tolerance to be within ±.002

### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	
.272	.310	.220	.100	.206	.055	.100	
6.91	7.87	5.59	2.54	5.23	1.40	2.54	
H	J	K	L				wt
.030	.026	.065	.300				grams
0.76	0.66	1.65	7.62				0.40

### Demo Board MCL P/N: TB-211 Suggested PCB Layout (PL-097)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.  
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.  
3. DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)  
4. DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

#### 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-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)

### Features

- excellent amplitude unbalance, 0.7 dB typ. and phase unbalance, 0.4 dB typ.
- very low insertion loss, 0.2 dB typ.
- excellent VSWR, 1.15 typ.
- excellent isolation, 24 dB typ.
- aqueous washable
- protected under U.S. Patent 6,133,525

### Applications

- VHF TV



Generic photo used for illustration purposes only

CASE STYLE: CD637

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications



Available Tape and Reel  
at no extra cost

Reel Size	Devices/Reel
13"	900

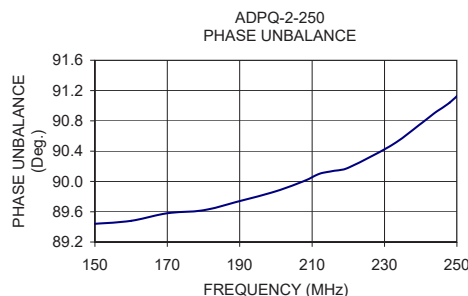
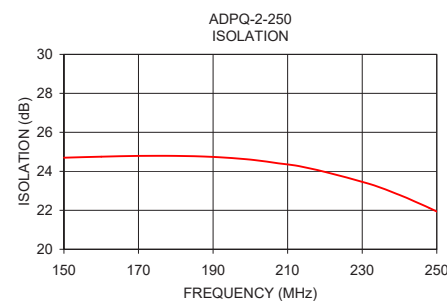
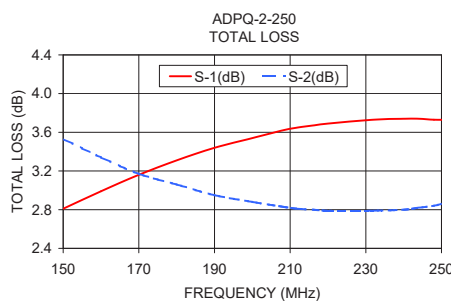
### Electrical Specifications

FREQ. RANGE (MHz)	ISOLATION (dB)	INSERTION LOSS (dB) Avg. of Coupled Outputs ABOVE 3 dB	PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)
$f_L$ - $f_U$	Typ. Min.	Typ. Max.	Max.	Max.
150-250	24 17	0.2 0.7	4	1.4

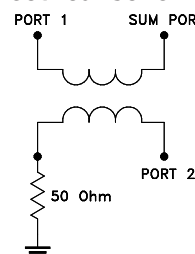
### Typical Performance Data

Frequency (MHz)	Total Loss <sup>1</sup> (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
150.00	2.81	3.53	0.72	24.70	89.44	1.13	1.13	1.14
160.00	2.99	3.34	0.34	24.75	89.48	1.14	1.14	1.14
170.00	3.16	3.17	0.01	24.79	89.58	1.14	1.14	1.15
180.00	3.31	3.06	0.25	24.79	89.62	1.14	1.14	1.15
190.00	3.44	2.95	0.49	24.74	89.74	1.15	1.15	1.16
200.00	3.54	2.88	0.67	24.60	89.87	1.15	1.15	1.17
208.00	3.62	2.83	0.78	24.40	90.01	1.16	1.15	1.17
212.00	3.65	2.81	0.83	24.30	90.10	1.16	1.16	1.18
216.00	3.67	2.80	0.87	24.15	90.14	1.16	1.16	1.18
220.00	3.69	2.79	0.90	23.97	90.18	1.16	1.16	1.18
232.00	3.73	2.79	0.94	23.35	90.48	1.17	1.17	1.20
240.00	3.74	2.80	0.94	22.79	90.76	1.18	1.18	1.21
244.00	3.74	2.82	0.92	22.46	90.91	1.19	1.18	1.22
248.00	3.73	2.84	0.89	22.12	91.04	1.19	1.19	1.22
252.00	3.73	2.88	0.85	21.75	91.22	1.20	1.19	1.23

1. Total Loss = Insertion Loss + 3dB splitter loss.



### electrical schematic



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