

Surface Mount Power Splitter/Combiner

ADQ-180+ ADQ-180

2 Way-90° 50Ω 120 to 180 MHz

Maximum Ratings

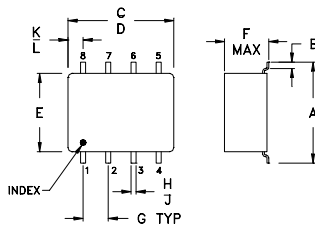
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.

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

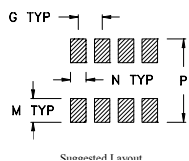
Pin Connections

SUM PORT	1
PORT 1 (+90°)	8
PORT 2 (0°)	4
GROUND	2,3,6,7
50 OHM TERM EXTERNAL	5

Outline Drawing



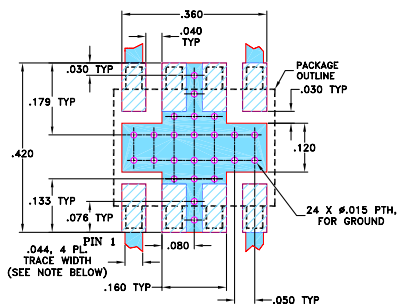
PCB Land Pattern



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	wt
.397	.032	.385	.435	.310	.215	.100	.015	.025	.035	.075	.120	.060	.420	grams
10.08	0.81	9.78	11.05	7.87	5.46	2.54	0.38	0.64	0.89	1.91	3.05	1.52	10.67	0.45

Demo Board MCL P/N: TB-83 Suggested PCB Layout (PL-063)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.020" ± 0.0015". 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.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
 - DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Features

- excellent amplitude unbalance, 0.6 dB typ. and phase unbalance, 0.7 deg. typ.
- very low insertion loss, 0.2 dB typ.
- small surface mount package
- protected under U.S. Patent 6,133,525

Applications

- VHF TV

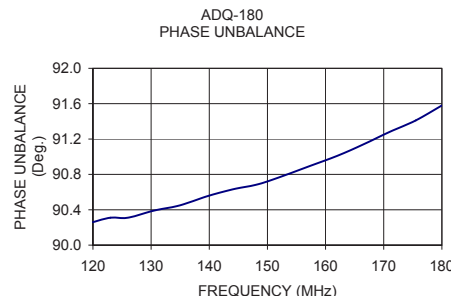
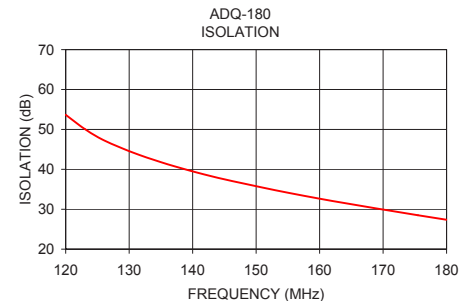
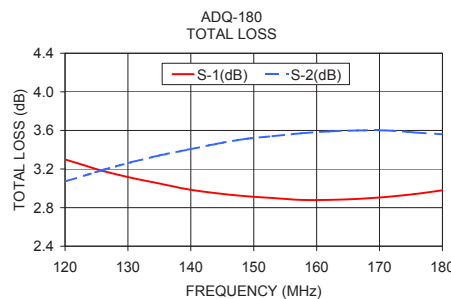
Electrical Specifications

FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) Avg. of Coupled Outputs ABOVE 3 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)
	Typ.	Min.	Typ.	Max.		
f_c - f_u					Max.	Max.
120-180	35	20	0.2	0.7	6	1.5

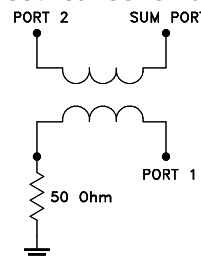
Typical Performance Data

Frequency (MHz)	Total Loss ¹ (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
120.00	3.30	3.07	0.23	53.66	90.26	1.04	1.03	1.05
123.00	3.24	3.13	0.11	50.12	90.31	1.04	1.03	1.05
126.00	3.18	3.19	0.01	47.30	90.31	1.04	1.03	1.05
130.50	3.11	3.27	0.16	44.27	90.39	1.03	1.03	1.05
135.00	3.05	3.34	0.30	41.81	90.45	1.03	1.03	1.06
139.50	2.99	3.40	0.41	39.71	90.55	1.03	1.03	1.06
144.00	2.95	3.46	0.51	37.87	90.63	1.03	1.03	1.06
148.50	2.92	3.51	0.59	36.28	90.69	1.03	1.03	1.06
153.00	2.90	3.54	0.65	34.78	90.79	1.03	1.03	1.06
157.50	2.88	3.57	0.69	33.39	90.90	1.03	1.03	1.06
162.00	2.88	3.59	0.71	32.08	91.01	1.04	1.04	1.07
166.50	2.89	3.60	0.71	30.85	91.14	1.04	1.04	1.07
171.00	2.91	3.60	0.69	29.66	91.28	1.05	1.05	1.08
175.50	2.94	3.58	0.64	28.50	91.41	1.05	1.06	1.08
180.00	2.98	3.56	0.57	27.36	91.58	1.06	1.06	1.09

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



electrical schematic



For detailed performance specs & shopping online see web site

Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED

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IF/RF MICROWAVE COMPONENTS

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REV. B
M127604
ADQ-180
ED-9402A/1
DY/TD/CP
120322



CASE STYLE: CJ725
PRICE: \$6.95 ea. QTY (1-9)

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