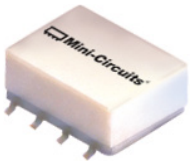
Surface Mount

Power Splitter/Combiner

ADQ-90+

2 Way-90° 50Ω 55 to 90 MHz



CASE STYLE: CJ725

+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
7"	10, 20, 50, 100, 200
13"	500

Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	0.5W 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

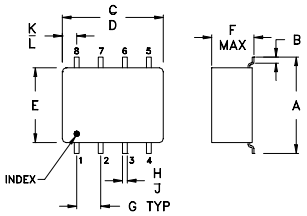
Features

- good isolation, 26 dB typ.
- good input port matching VSWR, 1.12 typ.
- good output port matching VSWR, 1.10 typ.
- excellent phase unbalance, 1 deg. typ.
- small surface mount package
- protected under U.S. Patent 6,133,525

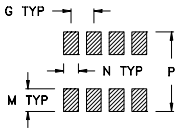
Applications

- VHF
- image rejection
- IF signal processing

Outline Drawing



PCB Land Pattern



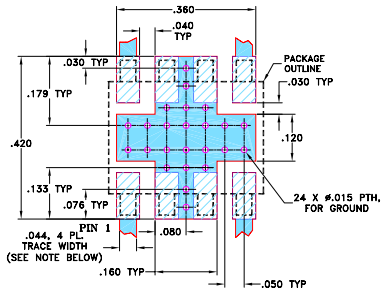
Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch / mm)

A	B	C	D	E	F	G
.397	.032	.385	.435	.310	.215	.100
10.08	0.81	9.78	11.05	7.87	5.46	2.54

H	J	K	L	M	N	P	wt
.015	.025	.035	.075	.120	.060	.420	grams
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

Electrical Specifications

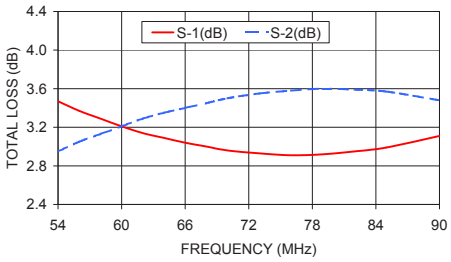
FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) Avg. of Coupled Outputs ABOVE 3 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)
f_L-f_U	Typ.	Min.	Typ.	Max.	Max.	Max.
55-90	26	20	0.2	0.7	4	1.2

Typical Performance Data

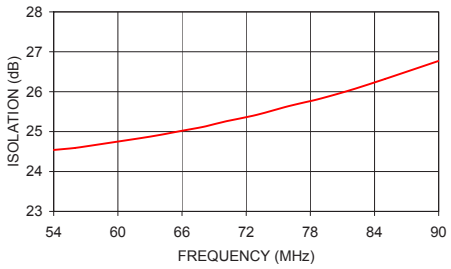
Frequency (MHz)	Total Loss[1] (dB) S-1	Total Loss[1] (dB) S-2	Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
54.00	3.47	2.95	0.53	24.54	89.58	1.11	1.13	1.11
56.00	3.37	3.05	0.33	24.59	89.62	1.11	1.13	1.11
58.00	3.29	3.13	0.16	24.67	89.67	1.11	1.13	1.11
60.00	3.21	3.21	0.00	24.75	89.67	1.11	1.13	1.11
62.00	3.14	3.29	0.14	24.83	89.73	1.11	1.13	1.11
64.00	3.09	3.35	0.26	24.92	89.76	1.10	1.13	1.10
66.00	3.04	3.40	0.37	25.02	89.77	1.10	1.13	1.10
68.00	3.00	3.45	0.46	25.12	89.87	1.10	1.13	1.10
70.00	2.96	3.50	0.54	25.25	89.88	1.09	1.13	1.10
73.00	2.93	3.55	0.62	25.42	90.02	1.09	1.14	1.10
76.00	2.91	3.58	0.67	25.64	90.08	1.08	1.14	1.10
79.00	2.92	3.60	0.67	25.83	90.20	1.08	1.14	1.10
82.00	2.95	3.59	0.64	26.06	90.33	1.08	1.14	1.10
85.00	2.99	3.57	0.58	26.32	90.49	1.07	1.15	1.11
90.00	3.11	3.48	0.37	26.77	90.75	1.06	1.16	1.11

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

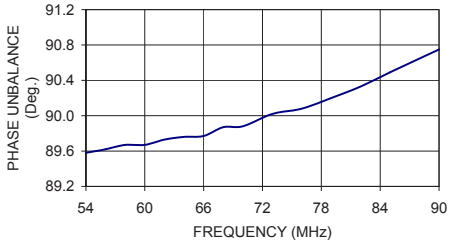
ADQ-90+
TOTAL LOSS



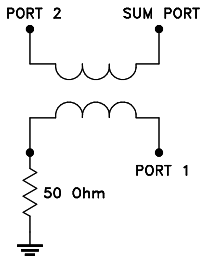
ADQ-90+
ISOLATION



ADQ-90+
PHASE UNBALANCE



electrical schematic



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.
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Mini-Circuits®
www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com