



Mini-Circuits®

SURFACE MOUNT

Power Splitter/Combiner

ADQ-90+

2 Way-90° 50Ω 55 to 90 MHz

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



Generic photo used for illustration purposes only

CASE STYLE: CJ725

+RoHS Compliant

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

APPLICATIONS

- VHF
- Image rejection
- IF signal processing

ELECTRICAL SPECIFICATIONS

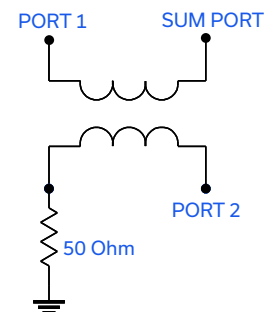
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range	—	55	—	90	MHz
Insertion Loss Avg. of Coupled Outputs above 3 dB	55-90	—	0.2	0.7	dB
Isolation	55-90	20	26	—	dB
Phase Unbalance	55-90	—	—	4	Degree
Amplitude Unbalance	55-90	—	—	1.2	dB

ABSOLUTE MAXIMUM RATINGS

Parameter	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.

ELECTRICAL SCHEMATIC



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PAGE 1 OF 3



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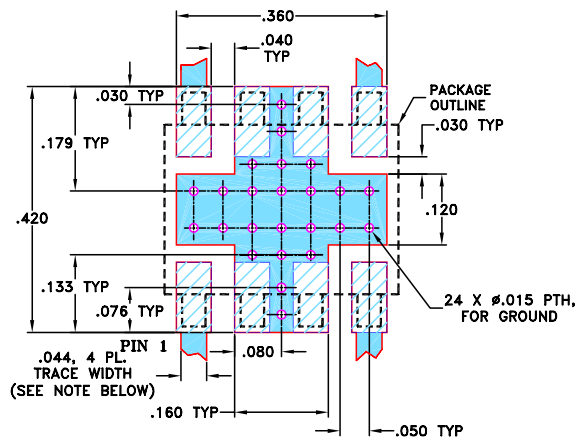
2 Way-90° 50Ω 55 to 90 MHz

PIN CONNECTIONS

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

PRODUCT MARKING: N/A

DEMO BOARD MCL P/N: TB-83
SUGGESTED PCB LAYOUT (PL-063)



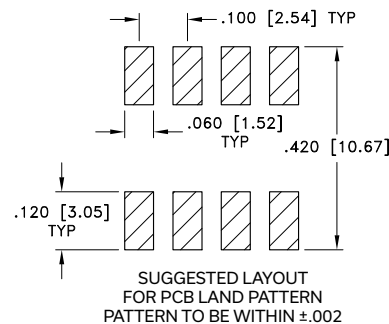
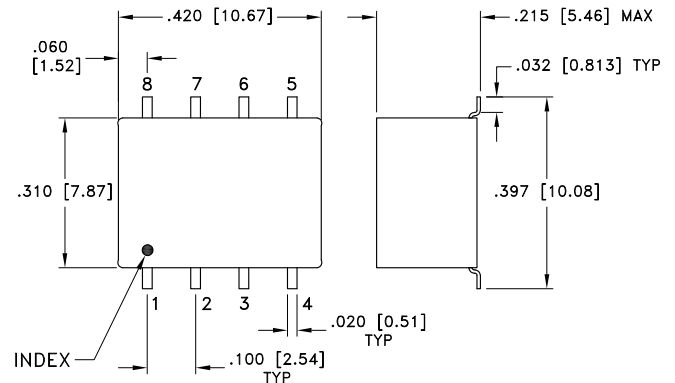
NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS $0.020'' \pm 0.0015''$. COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

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

OUTLINE DRAWING



 METALLIZATION

Weight: .40 gram

Dimensions are in inches [mm]. Tolerances: 2 Pl. ± 0.01 ; 3Pl. ± 0.005 Inch

Notes:

1. Case material: Plastic.
2. Termination Finish: Tin plate over Nickel plate.

TAPE & REEL INFORMATION: F10



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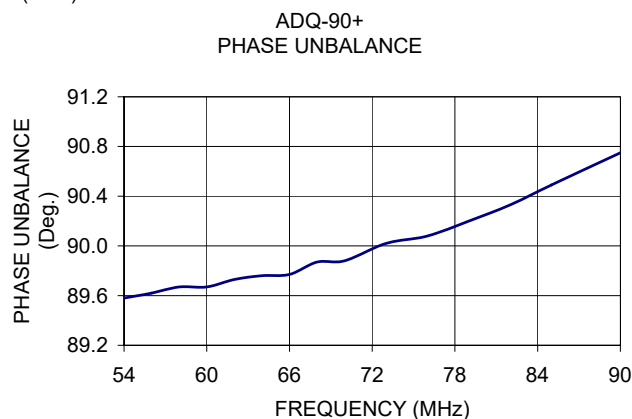
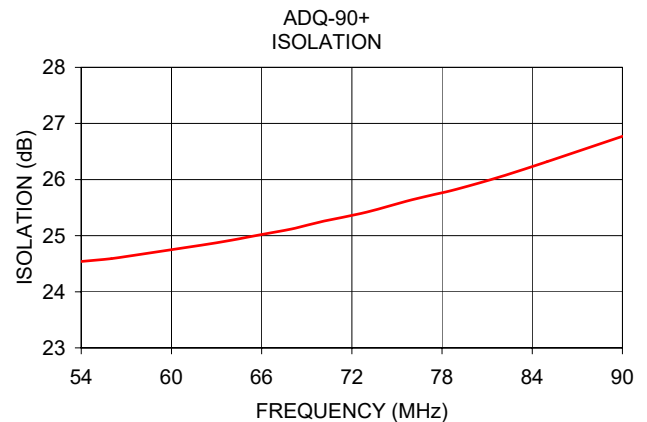
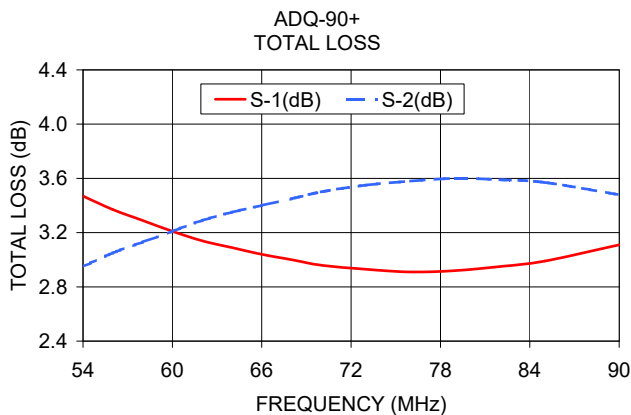
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TYPICAL PERFORMANCE DATA

Frequency (MHz)	Total Loss ¹ (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR (:1)		
	S-1	S-2				S	1	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.



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-Circuits 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-Circuits' website at www.minicircuits.com/terms/viewterm.html



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