

Engineering Development Model

Power Splitter/Combiner 2 Way-0°

ADP-ED7657/1

Important Note

This model has been designed, built and tested in our engineering department. Performance data represents model capability. At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.



Please click "Back", and then click "Contact Us" for Applications support.

CASE STYLE : CD636

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency		4.6		506	MHz
Isolation	4.6-46 MHz		34		dB
	46-253 MHz		35		dB
	253-506 MHz		40		dB
Insertion Loss Above 3.0 dB	4.6-46 MHz		0.18		dB
	46-253 MHz		0.23		dB
	253-506 MHz		0.38		dB
Phase Unbalance	4.6-46 MHz		0.015		deg.
	46-253 MHz		0.012		deg.
	253-506 MHz		0.055		deg.
Amplitude Unbalance	4.6-46 MHz		0.001		dB
	46-253 MHz		0.008		dB
	253-506 MHz		0.023		dB
VSWR	SUM Port		1.07		(:1)
	OUT Ports		1.09		(:1)

MAXIMUM RATINGS	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

PIN CONNECTIONS	
SUM PORT	1
PORT 1	3
PORT 2	4
GROUND	6
Externally connect together & isolate	2 & 5

Functional Diagram



P.O. Box 350188, Brooklyn, New York 11235-0000 (718) 934-4500 Fax (718) 332-4951 For detailed performance specs & shopping online see Mini-Circuits web site



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RF/MICROWAVE COMPONENTS



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Typical Performance Data

FREQ. (MHz)	TOTAL LOSS ¹ (dB)		AMP. UNBAL. (dB)	ISOLATION (dB) 1-2	PHASE UNBAL. (deg.)	FREQ. (MHz)	VSWR (:1)		
	S-1	S-2					S	1	2
4.6	3.14	3.13	0.00	26.42	0.03	4.6	1.15	1.27	1.27
6.4	3.17	3.17	0.00	29.68	0.01	6.4	1.11	1.19	1.19
8.2	3.18	3.18	0.00	31.61	0.00	8.2	1.09	1.15	1.15
10.0	3.19	3.19	0.00	32.93	0.02	10.0	1.08	1.13	1.13
18.0	3.19	3.19	0.00	36.38	0.01	18.0	1.06	1.09	1.09
26.0	3.19	3.19	0.00	38.21	0.01	26.0	1.05	1.08	1.08
34.0	3.19	3.19	0.00	39.17	0.02	34.0	1.04	1.06	1.07
42.0	3.19	3.19	0.00	39.38	0.02	42.0	1.04	1.06	1.06
50.0	3.19	3.19	0.00	39.16	0.02	50.0	1.04	1.05	1.05
75.0	3.19	3.20	0.01	37.71	0.02	75.0	1.04	1.04	1.04
100.0	3.21	3.22	0.01	36.26	0.00	100.0	1.04	1.03	1.03
150.0	3.23	3.24	0.01	34.12	0.00	150.0	1.04	1.02	1.02
200.0	3.27	3.28	0.01	32.97	0.01	200.0	1.04	1.02	1.01
250.0	3.29	3.30	0.01	32.75	0.02	250.0	1.03	1.02	1.01
300.0	3.32	3.33	0.01	33.56	0.03	300.0	1.01	1.03	1.02
323.0	3.28	3.29	0.02	34.39	0.02	323.0	1.01	1.04	1.03
346.0	3.35	3.36	0.02	35.80	0.04	346.0	1.02	1.05	1.04
369.0	3.33	3.34	0.02	37.86	0.05	369.0	1.04	1.07	1.06
392.0	3.34	3.36	0.02	41.47	0.05	392.0	1.06	1.08	1.07
415.0	3.36	3.37	0.02	50.58	0.06	415.0	1.08	1.10	1.08
432.5	3.42	3.45	0.03	53.73	0.06	432.5	1.10	1.11	1.10
450.0	3.39	3.42	0.02	42.56	0.04	450.0	1.13	1.13	1.11
477.8	3.42	3.45	0.03	35.09	0.07	477.8	1.17	1.15	1.14
505.6	3.51	3.55	0.04	30.61	0.13	505.6	1.22	1.18	1.17

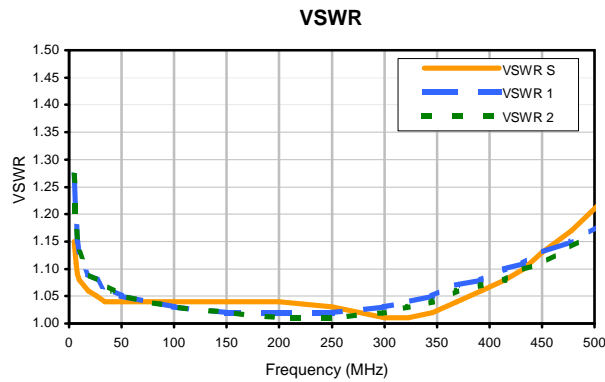
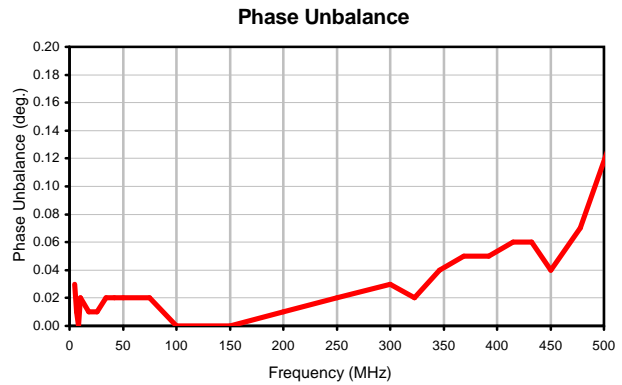
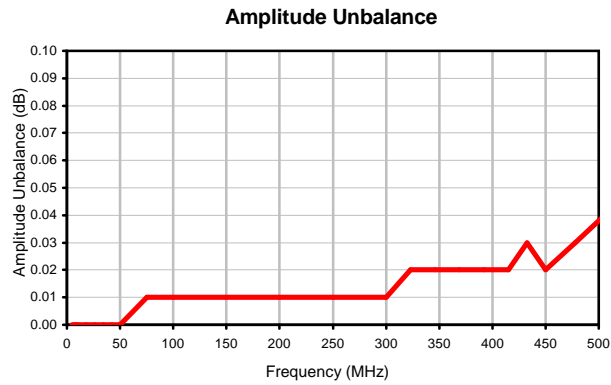
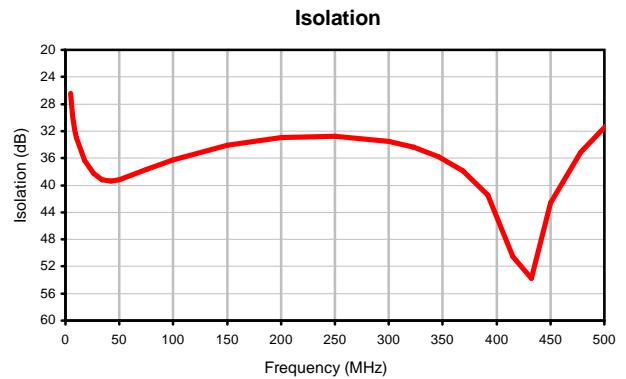
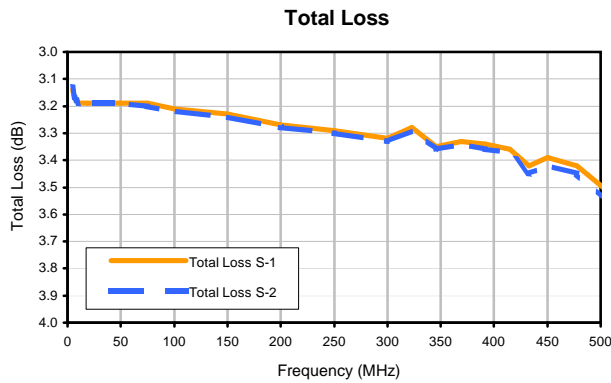
¹ Total Loss = Insertion Loss + 3dB Splitter Loss



2 Way-0° Power Splitter/Combiner

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Typical Performance Curves



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The Design Engineers Search Engine finds the model you need, instantly • For detailed performance specs & shopping online see



Case Style

CD

CD541
CD542
CD636
CD637

Outline Dimensions



PCB Land Pattern



Suggested Layout,
Tolerance to be within $\pm .002$

CASE#	A	B	C	D	E	F	G	H	J	K	L	WT, GRAM
CD541					.082 (2.08)							.15
CD542	.272 (6.91)	.310 (7.87)	.220 (5.58)	.100 (2.54)	.112 (2.84)	.055 (1.40)	.100 (2.54)	.030 (0.76)	.026 (0.66)	.065 (1.65)	.300 (7.62)	.20
CD636					.162 (4.11)							.25
CD637					.206 (5.23)							.40

Dimensions are in inches (mm). Tolerances: 2 Pl. $\pm .01$; 3 Pl. $\pm .005$

Notes:

- Case material: Plastic.
- Termination finish:
 - For RoHS Case Styles: Tin plate over Nickel plate. All models, (+) suffix.
 - For RoHS-5 Case Styles: Tin-Lead plate. All models, no (+) suffix.

Mini-Circuits

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Mini-Circuits ISO 9001 & ISO 14001 Certified

Tape & Reel Packaging TR-F34



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel see note	
16	12	7	Small quantity standard (see note)	20
				50
			Standard	100
				200
		13	Standard	500
				1000

Note: Availability of small reel quantity varies by model.
Refer to pricing and availability on individual model dashboard.

Mini-Circuits carrier tape materials provide protection from ESD (Electro-Static Discharge) during handling and transportation. Tapes are static dissipative and comply with industry standards EIA-481/EIA-541.

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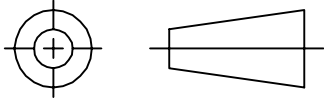
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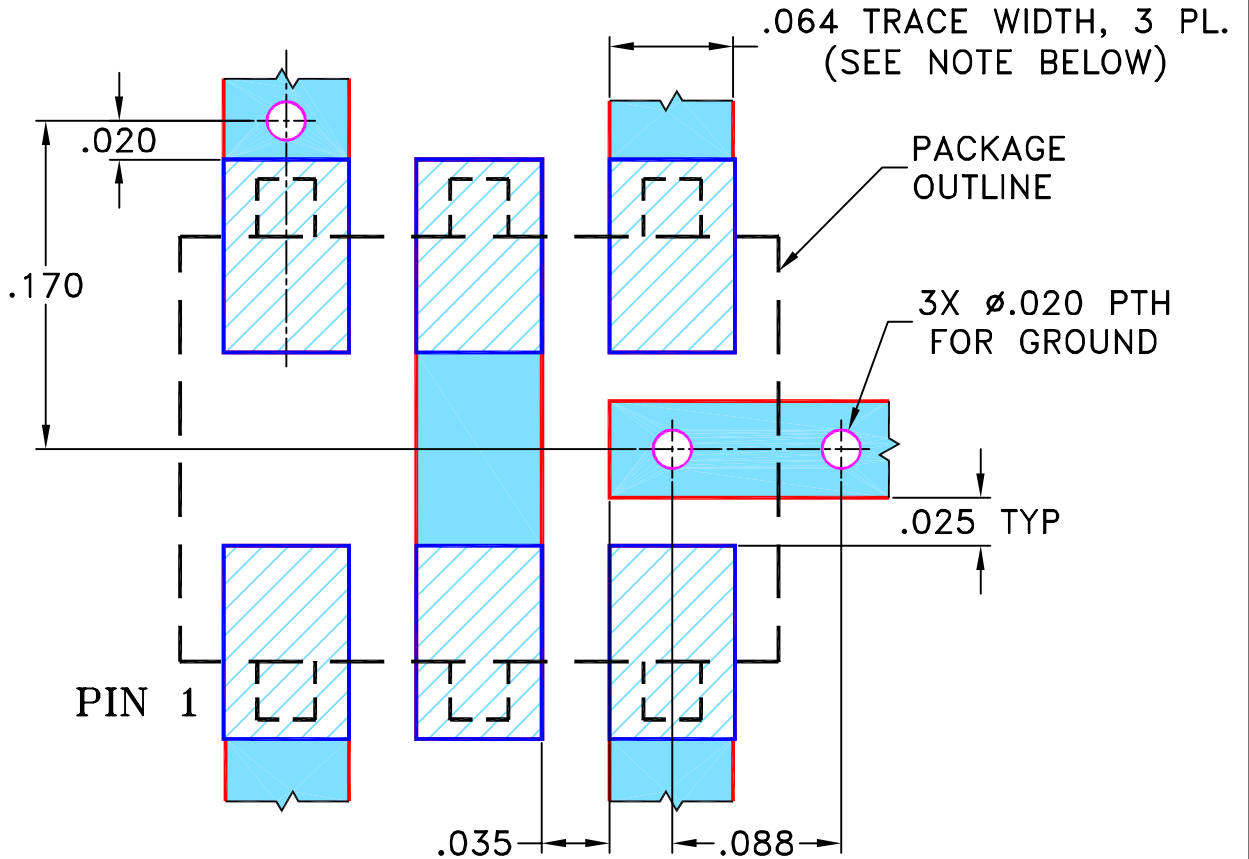
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M82448	NEW RELEASE	12/06/02	MMG	HY
A	M102713	ADDED "...WITH SMOBC"	01/17/06	MMG	IL

SUGGESTED MOUNTING CONFIGURATION
FOR CD636 CASE STYLE, "mp" PIN CONNECTION



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" \pm .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.

- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

UNLESS OTHERWISE SPECIFIED

DIMENSIONS ARE IN INCHES
TOLERANCES ON:
2 PL DECIMALS \pm
3 PL DECIMALS \pm .005
ANGLES \pm
FRACTIONS \pm

	INITIALS	DATE
DRAWN	MMG	11/19/02
CHECKED	AV	12/05/02
APPROVED	HY	12/06/02



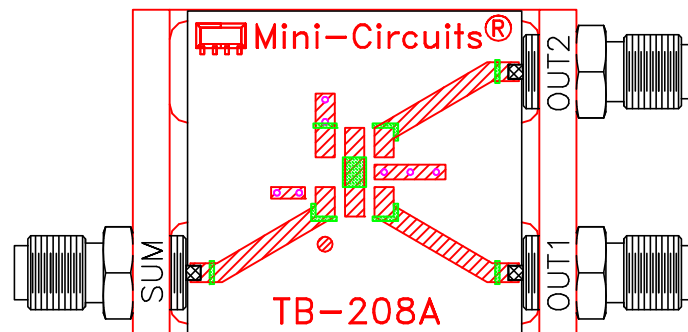
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PL, mp, CD636, ADP, TB-208

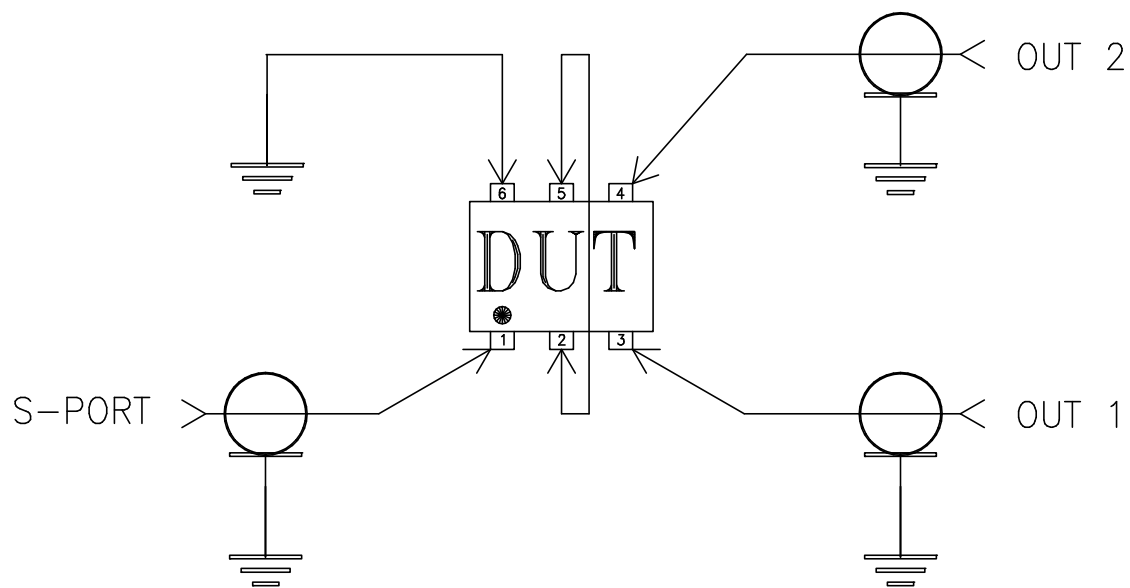
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SIZE A	CODE IDENT 15542	DRAWING NO: 98-PL-116	REV: A
FILE: 98PL116	SCALE: 10:1	SHEET: 1 OF 1	

Evaluation Board and Circuit




TB-208



Schematic Diagram

Notes:

1. SMA Female connectors.
2. PCB Material: Rogers R04350 or equivalent,
Dielectric Constant=3.5, Thickness=.030 inch.

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All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-40° to 85°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Humidity	90 to 95% RH, 240 hours, 50°C	MIL-STD-202, Method 103, Condition A, Except 50°C and end-point electrical test done within 12 hours
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
Solder Reflow Heat	Sn-Pb Eutetic Process: 225°C peak Pb-Free Process 245° - 250°C peak	J-STD-020, Table 4-1, 4-2 and 5-2, Figure 5-1
Solderability	10X Magnification	J-STD-002, 95% Coverage
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes	MIL-STD-202, Method 213, Condition A
Marking Resistance to Solvents	Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C; distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C	MIL-STD-202, Method 215