VERY WIDEBAND

RF Choke

ADCH-80+

50Ω 50 to 10000 MHz

FEATURES

- Low Parasitic Capacitance, 0.1 pF Typ.
- Effective Parallel Resistance, Rch 800Ω Typ.
- Aqueous Washable
- Protected by US Patent, 6,133,525

Generic photo used for illustration purposes only

CASE STYLE: CD542

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

APPLICATIONS

- Biasing Amplifiers
- Biasing of Laser Diodes
- Biasing of Active Antennas

ELECTRICAL SPECIFICATIONS AT +25°C

Parameter	Condition	Min.	Typ.	Max.	Unit
Frequency Range		50		10000	MHz
Insertion Loss[1]	50-8000 MHz 50-10000 MHz		0.3 0.3	1.0 2.0	dB
VSWR[1]	50-8000 MHz 50-10000 MHz		1.1 1.1	1.35 1.6	:1
DC Current	50-10000 MHz			100	mA
Inductance	@ 0 mA @ 50 mA @ 100 mA		7.0 1.8 1.0		µH

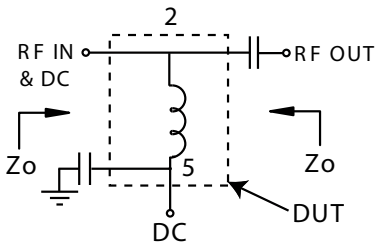
1. Tested with circuit shown below, Zo = 50Ω.

ABSOLUTE MAXIMUM RATINGS

Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C
DC Current	250 mA

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

TEST CIRCUIT[1]



REV. F
ECO-027902
ADCH-80+
MCL NY
260303

VERY WIDEBAND

RF Choke

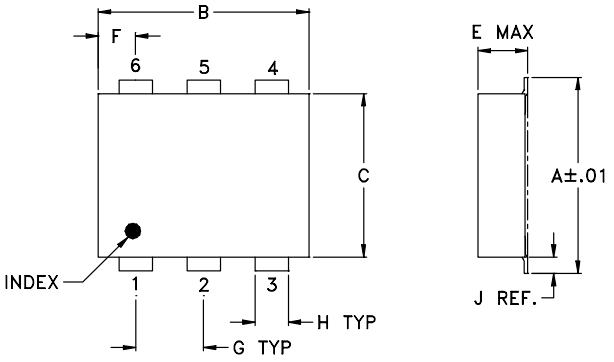
ADCH-80+

50Ω 50 to 10000 MHz

PIN CONNECTIONS

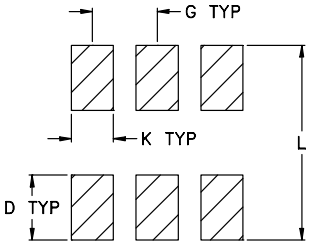
RF-IN & DC	2
DC	5
NOT USED	1,3,4,6

OUTLINE DRAWING



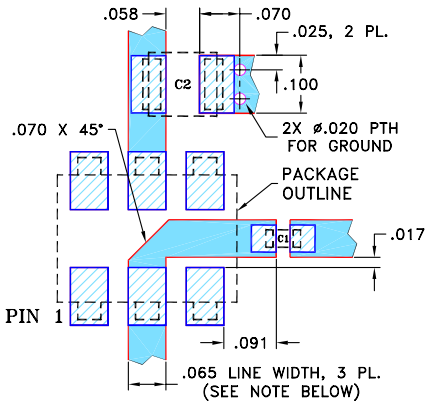
PRODUCT MARKING: N/A

PBC Land Pattern



Suggested Layout,
Tolerence to be within ±.002 in

DEMO BOARD MCL P/N: TB-ADCH-80+
SUGGESTED PCB LAYOUT (PL-210)



CAPACITORS: C1: 6800 pF, 0603 SIZE; C2: 1.0 uF, 1311 SIZE.

NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B 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.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

OUTLINE DIMENSIONS (Inches / mm)

A	B	C	D	E	F	G
.272	.310	.220	.100	.112	.055	.100
6.91	7.87	5.59	2.54	2.84	1.40	2.54

H	J	K	L	wt
.030	.026	.065	.300	grams
0.76	0.66	1.65	7.62	0.20

TAPE & REEL INFORMATION: F34

VERY WIDEBAND

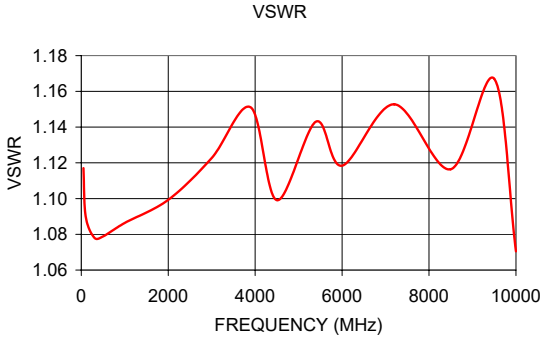
RF Choke

ADCH-80+

50Ω 50 to 10000 MHz

TYPICAL PERFORMANCE DATA

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
50.0	0.38	1.12
100.0	0.32	1.09
300.0	0.31	1.08
500.0	0.32	1.08
1000.0	0.27	1.09
2000.4	0.44	1.10
3000.9	0.53	1.12
3900.0	0.42	1.15
4500.0	0.51	1.10
5400.0	0.55	1.14
6000.0	0.65	1.12
7199.8	0.51	1.15
8500.0	0.31	1.12
9500.2	0.81	1.17
10000.3	0.42	1.07



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.

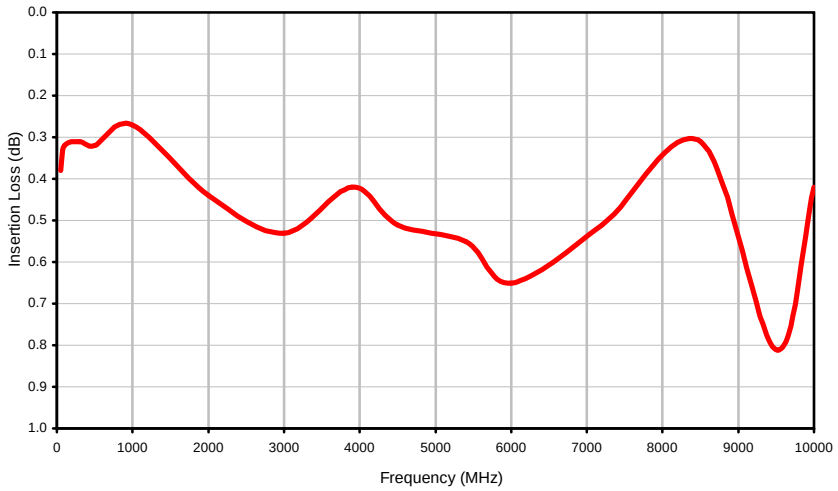
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/terms/viewterm.html

Typical Performance Data

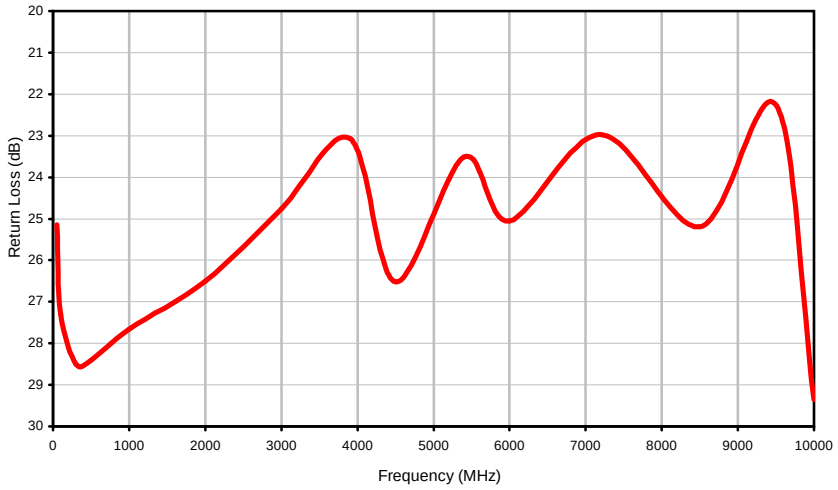
FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)
50.0	0.38	25.15
100.0	0.32	27.30
300.0	0.31	28.50
500.0	0.32	28.42
1000.0	0.27	27.66
2000.4	0.44	26.50
3000.9	0.53	24.76
3900.0	0.42	23.07
4500.0	0.51	26.52
5400.0	0.55	23.51
6000.0	0.65	25.05
7199.8	0.51	22.98
8500.0	0.31	25.19
9500.2	0.81	22.26
10000.3	0.42	29.36

Typical Performance Curves

Insertion Loss



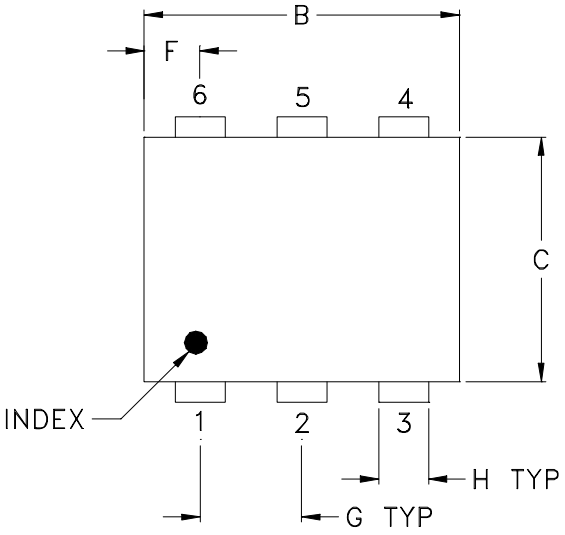
Return Loss

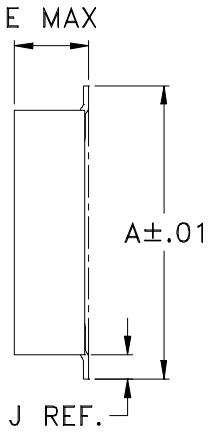


Case Style CD

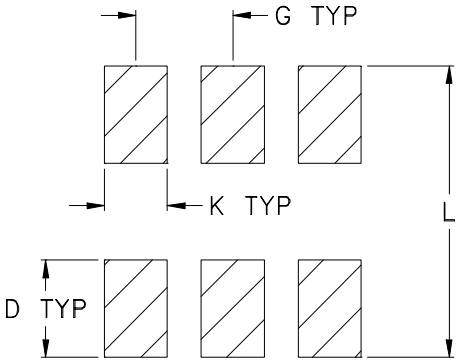
CD541
CD542
CD636
CD637

Outline Dimensions





PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

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

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

Notes:

1. Case material: Plastic.
2. 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.

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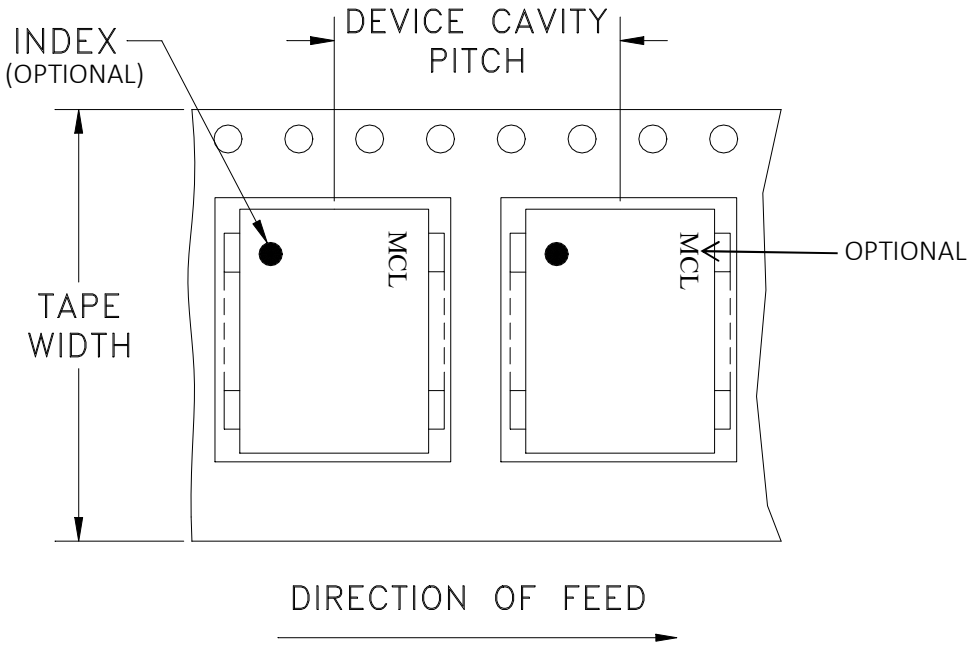
Tape & Reel Packaging TR-F34

DEVICE ORIENTATION IN T&R



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
				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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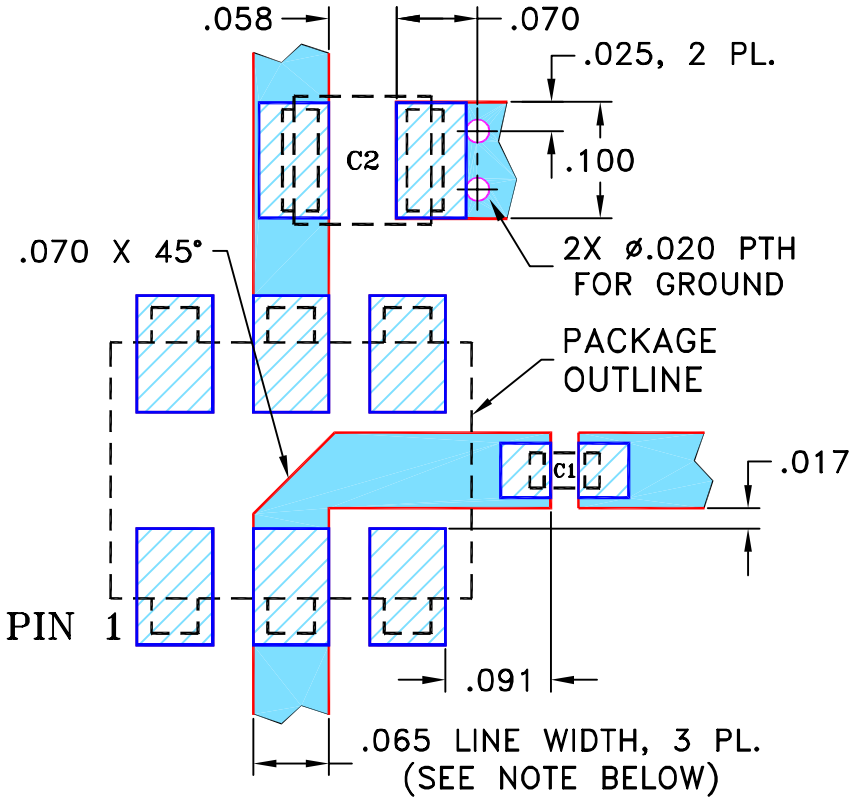
THIRD ANGLE PROJECTION

REVISIONS					
REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M100735	NEW RELEASE	04/03/06	MMG	DJ

SUGGESTED MOUNTING CONFIGURATION FOR CD542 CASE STYLE, "lv" PIN CONNECTION



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DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

UNLESS OTHERWISE SPECIFIED		INITIALS	DATE
DIMENSIONS ARE IN INCHES	DRAWN	MMG	03/29/06
TOLERANCES ON:	CHECKED	AV	03/31/06
2 PL DECIMALS ±	APPROVED	DJ	04/03/06
3 PL DECIMALS ± .005			
ANGLES ±			
FRACTIONS ±			

ASHEETA1.DWG REV:A DATE:01/12/95

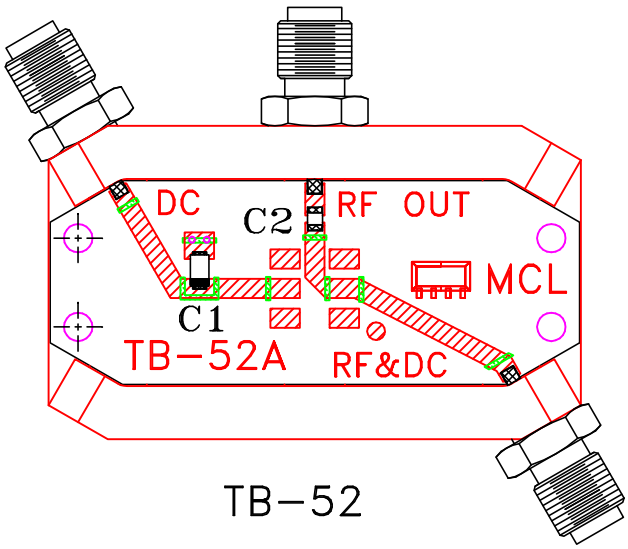
Mini-Circuits® 13 Neptune Avenue Brooklyn NY 11235

PL, lv, CD542, ADCH, TB-52

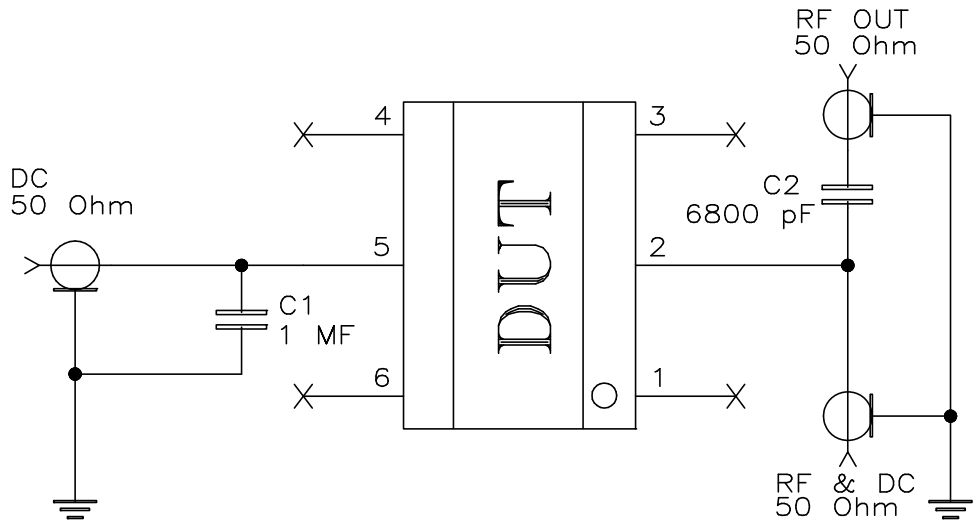
SIZE	CODE IDENT	DRAWING NO:	REV:
A	15542	98-PL-210	OR

FILE:	SCALE:	SHEET:
98PL210		1 OF 1

Evaluation Board and Circuit



TB-52



Schematic Diagram

Notes:

1. SMA Female connectors.
2. PCB Material: Rogers RO4350 or equivalent, Dielectric Constant=3.5, Thickness=.030 inch.

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Environmental Specifications ENV02T1

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