VERY HIGH DC CURRENT

RF Choke

ADCH-1220+

50Ω 5 to 1220 MHz

THE BIG DEAL

- Very Wideband, 5 to 1220 MHz
- Maximum DC Current Handling Capability of 200 mA
- Excellent Insertion Loss, 0.2 dB Typical
- Good Return Loss, 25 dB Typ.
- Low Parasitic Capacitance, 0.1 pF Typ.
- Effective Parallel Resistance, Rch 800Ω Typ.
- SMT Package
- Aqueous Washable
- Protected by US Patent, 6,133,525



Generic photo used for illustration purposes only

CASE STYLE: CD637

+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

PRODUCT OVERVIEW

Mini-Circuits' ADCH-1220+ RF Choke achieves a very wide bandwidth from 5 up to 1220 MHz. The choke is wound with AWG32 wire, making the maximum continuous current 200 mA DC. Excellent Insertion Loss, good VSWR (1.1:1 typ.), flatness and rugged construction make this model an ideal solution for rf-choke applications across a very wide frequency range. This unit supports a broad range of system and test applications.

KEY FEATURES

Features	Advantages
Extremely Wideband, 5 to 1220 MHz	Ideal for an exceptionally wide variety of lab and system applications.
Excellent Insertion Loss, 0.2 dB Typ. Across Entire Range	Provides excellent signal transmission from input to output with consistent performance across its entire frequency range.
Good Return Loss, 25 dB Typ.	Efficient power utilization with minimal signal power reflected back to source.
200 mA DC Continuous	Ideal for DC injection applications requiring high current levels.
Rugged Construction	Withstands harsh environmental conditions for high reliability and long life of use.

REV. B
ECO-027902
ADCH-1220+
MCL NY
260519

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ELECTRICAL SPECIFICATIONS AT +25 °C

Parameter	Condition	Min.	Typ.	Max.	Unit
Frequency Range		5		1220	MHz
Insertion Loss	5-10 MHz 10-1220 MHz	– –	0.3 0.2	0.8 0.5	dB
VSWR[1]	5-10 MHz 10-1220 MHz	– –	1.64 1.1	– 1.29	:1
DC Current	–	–	–	200	mA
Inductance	@ 0 mA	–	3.4	–	µH

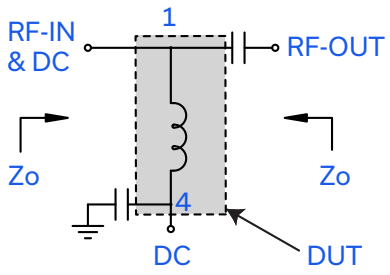
1. Tested with circuit shown below, Z_0 = 50Ω.

ABSOLUTE MAXIMUM RATINGS

Operating Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +100 °C
DC Current	300 mA

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

TEST CIRCUIT[1]



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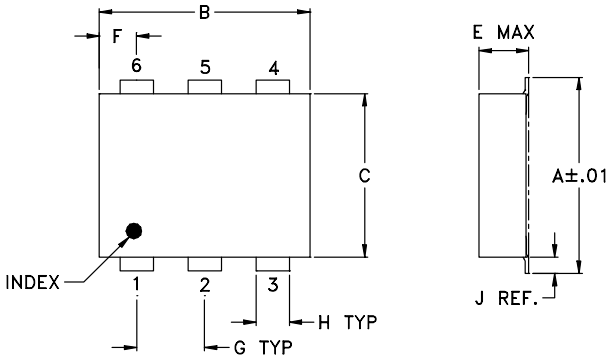
PIN CONNECTIONS

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

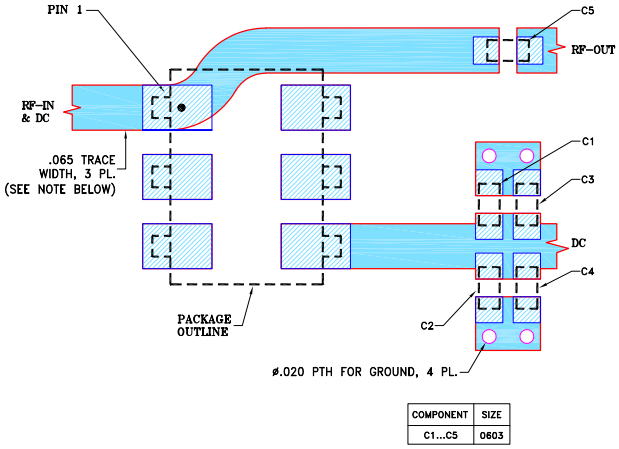
OUTLINE DRAWING



PRODUCT MARKING: N/A

DEMO BOARD MCL P/N: TB-ADCH-1220+

SUGGESTED PCB LAYOUT (PL-699)



COMPONENT	SIZE
C1...C5	0603

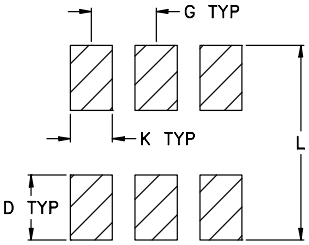
NOTES:

1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030±.0015"; COPPER: 1/2 OZ. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. CHIP COMPONENT FOOT PRINTS SHOWN FOR REFERENCE. FOR COMPONENT VALUES REFER TO TB-ADCH-1220+.
3. UNIT LAND PATTERN WAS OPTIMIZED FOR BETTER PERFORMANCE.
4. BOTTOM COPPER 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

PBC Land Pattern



Suggested Layout,
Tolerence to be within ±.002 in

OUTLINE DIMENSIONS (Inches / mm)

A	B	C	D	E	F	G
.272	.310	.220	.100	.206	.055	.100
6.91	7.87	5.59	2.54	5.23	1.40	2.54

H	J	K	L			wt
.030	.026	.065	.300			grams
0.76	0.66	1.65	7.62			0.40

TAPE & REEL INFORMATION: F46

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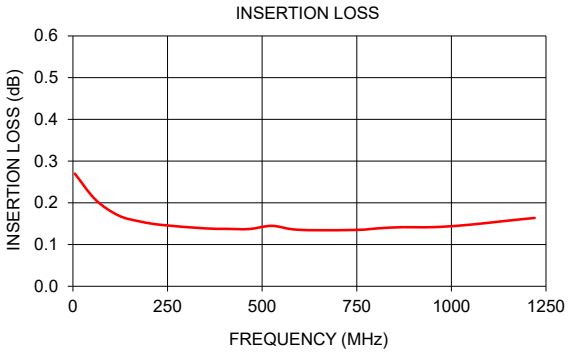
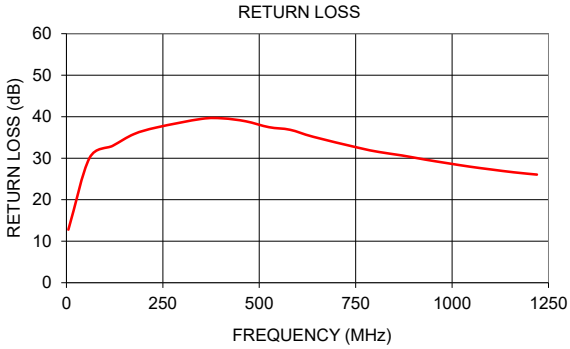
TYPICAL PERFORMANCE DATA

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)
5	0.27	12.78
60	0.21	30.08
120	0.17	32.99
175	0.16	35.80
235	0.15	37.43
350	0.14	39.47
405	0.14	39.60
465	0.14	38.89
525	0.14	37.48
580	0.14	36.84
640	0.13	35.16
755	0.14	32.56
810	0.14	31.50
870	0.14	30.66
930	0.14	29.67
985	0.14	28.84
1045	0.15	27.97
1100	0.15	27.30
1160	0.16	26.60
1220	0.16	26.05





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