SURFACE MOUNT top hat

RF Choke

TCCH-80A+

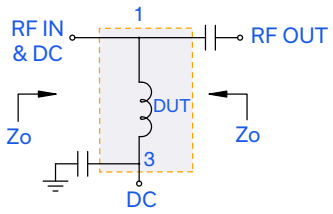
50Ω 50 to 8200 MHz Very Wideband

KEY FEATURES

- Very broadband
- Miniature size, 0.15"x0.15"
- Low parasitic capacitance, 0.1 pf typ.
- Effective parallel resistance, Rch 500 ohm typ.
- Usable up to 10 GHz
- Aqueous washable
- Low DC resistance, 0.1Ω
- Protected by U.S. Patent 7,012,485

Generic photo used for illustration purposes only

FUNCTIONAL DIAGRAM



APPLICATIONS

- Biasing amplifiers
- Biasing of laser diodes
- Biasing of active antennas

PRODUCT OVERVIEW

Mini-Circuits' TCCH-80A+ RF Choke achieves very wide bandwidth from 50 up to 8200 MHz. The RF Choke features 200 mA max DC Current, excellent Insertion Loss and VSWR (1.1:1 typ.), flatness and its 0.15x0.15x0.15" size makes it an ideal solution for rf-choke applications across a very wide frequency range and dense circuit board layouts. These units support a broad range of system and test applications.

ELECTRICAL SPECIFICATIONS AT +25°C

Parameter		Frequency (MHz)	Min.	Typ.	Max.	Units
Frequency Range		-	50	-	8200	MHz
Insertion Loss[1]		50-8200	-	0.5	1.1	dB
VSWR		50-8200		1.1	1.7	:1
DC Current		50-8200	-	-	200	mA
Inductance at:	0 mA	50-8200	-	2.7	-	µH
	50 mA		-	1.4	-	
	100 mA		-	1.3	-	
	200 mA		-	0.9	-	

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

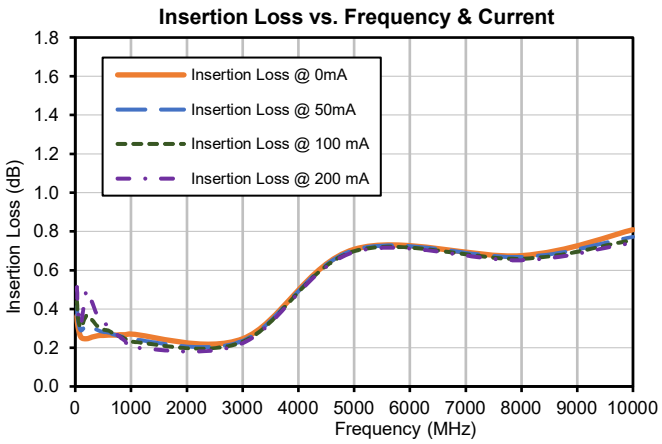
ABSOLUTE MAXIMUM RATINGS[2]

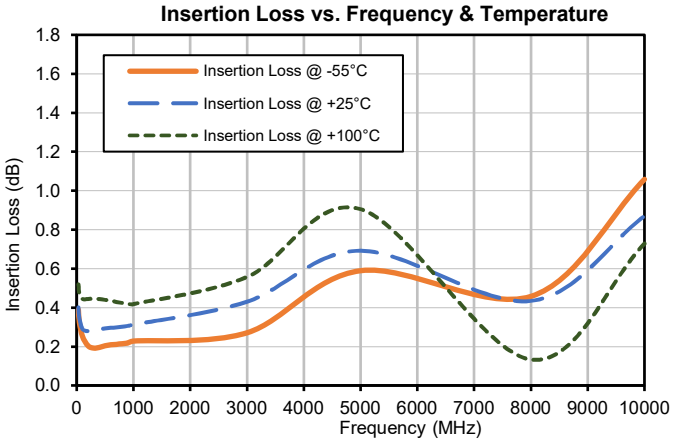
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C
DC Current	300 mA

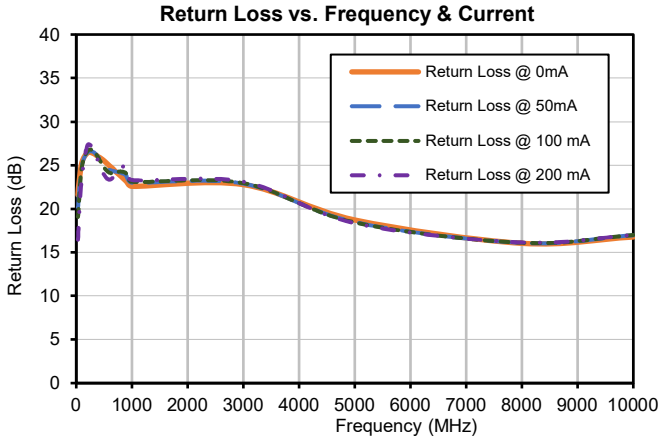
2. Permanent damage may occur if any of these limits are exceeded.

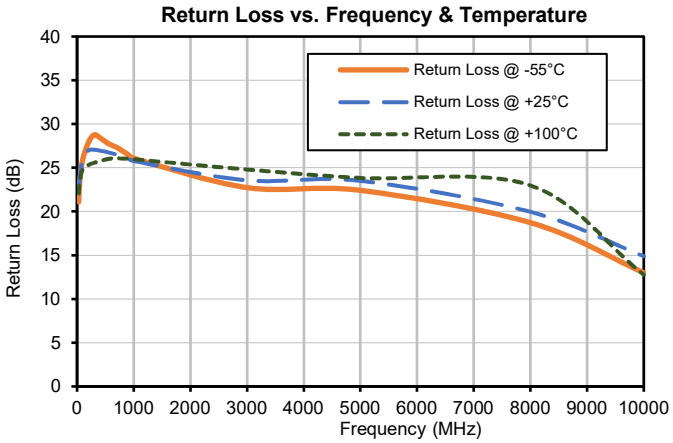
REV. OR
ECO-021815
TCCH-80A+
MCL NY
240606

TYPICAL PERFORMANCE GRAPHS









FUNCTIONAL DIAGRAM

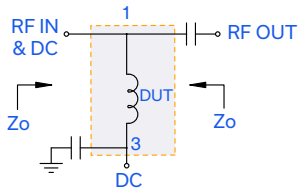
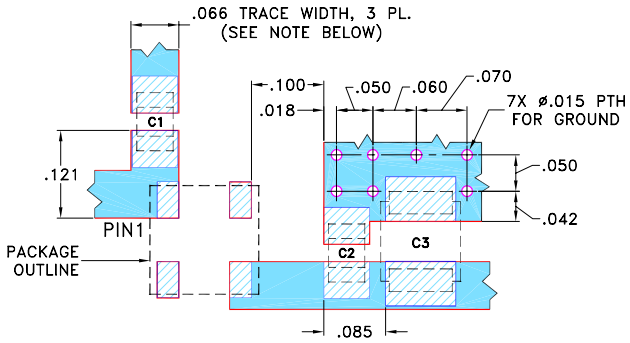


Figure 1. TCCH-80A+ Functional Diagram

PAD DESCRIPTION

Function	Pad Number	Description
RF-IN & DC	1	Connects to RF-IN & DC Port
DC	3	Connects to DC Port
NC	2,4	No connection, not used internally. See drawing PL-147 for connection to PCB

SUGGESTED PCB LAYOUT (PL-147)



CAPACITORS C1,C2: 39000 pF, EIA CODE (MM): 2012
CAPACITORS C3: TANT, 1 uF, EIA CODE (MM): 3528

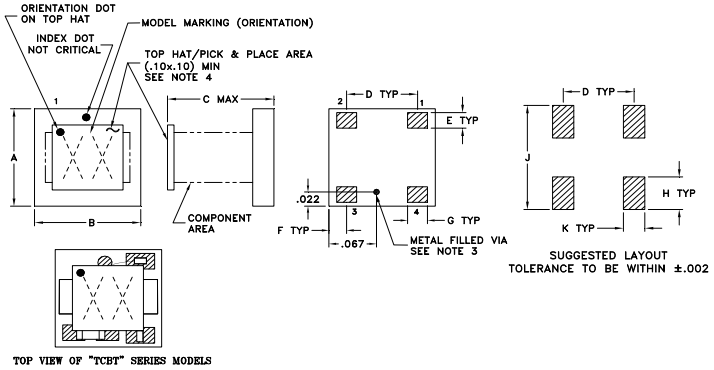
NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

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

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Figure 2. Suggested PCB Layout PL-147

CASE STYLE DRAWING



CASE #	A	B	C	D	E	F	G	H	J	K	WT.GRAMS
GU1604	.150 (3.81)	.150 (3.81)	.150 (3.81)	.100 (2.54)	.030 (.76)	.025 (.64)	.028 (.71)	.050 (1.27)	.160 (4.06)	.030 (.76)	.10

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

PRODUCT MARKING*: BC

*Marking may contain other features or characters for internal lot control.

ADDITIONAL DETAILED INFORMATION IS AVAILABLE ON OUR DASHBOARD. CLICK HERE

Performance Data & Graphs	Data Graphs S-Parameter (S2P Files) Data Set (.zip file) De-embedded to device pads
Case Style	GU1604 Lead Finish: Palladium Silver
RoHS Status	Compliant
Tape and Reel	F77
Suggested Layout for PCB Design	PL-147
Evaluation Board	TB-TCCH-80A+ Gerber File
Environmental Rating	ENV02T1

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