Very High DC Current

RF Choke

TACH-182-75+

75Ω 5 to 1800 MHz 15Amp DC

The Big Deal

- Very wideband, 5 to 1800 MHz
- High Current, 15A DC Continuous, 25A DC Peak
- Excellent Insertion Loss, .4dB typical
- Good Return Loss, 20 dB typ.
- Pin Connectors

CASE STYLE: SD2827

Product Overview

The TACH-182-75+ series of high current RF Chokes achieve very wide bandwidth from 5 up to 1800 MHz. The bandwidth improvement was accomplished by adding a smaller series inductor with an appropriate low loss core. The choke is wound with AWG15 wire, making the maximum continuous current 15A DC and peak current 25A DC. Excellent Insertion Loss, good VSWR (1.22:1 typ.), flatness and rugged construction make these models ideal solutions for rf-choke applications requiring high current across a very wide frequency range. These units support a broad range of system and test applications.

Key Features

Feature	Advantages
Extremely wideband, 5 to 1800 MHz	Ideal for an exceptionally wide variety of lab and system applications.
Excellent Insertion Loss, .4 dB typ. across entire range.	Provides excellent signal transmission from input to output with consistent performance across its entire frequency range.
Good Return Loss, 20 dB typ.	Efficient power utilization with minimal signal power reflected back to source
High 15A DC continuous and 25A DC peak current handling	Ideal for DC injection applications requiring high current levels.
Rugged Construction	Withstands harsh environmental conditions for high reliability and long life of use.

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Generic photo used for illustration purposes only

CASE STYLE: SD2827

+RoHS Compliant

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

Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
DC Current Continuous	15A
DC Current Peak	25A

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

Pin Connections

RF-IN & DC	3
RF GROUND	1
NOT USED / OPEN	2

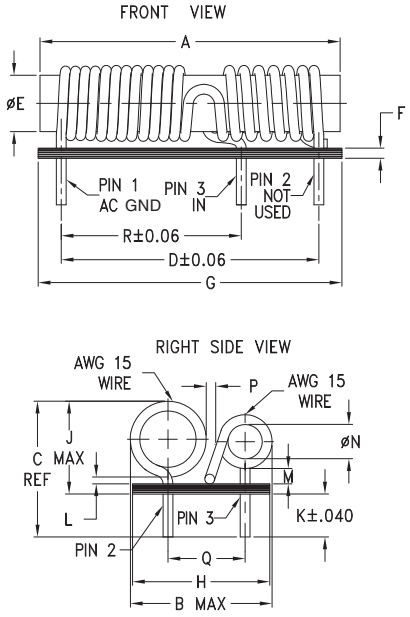
Features

- series inductance, 5.4uH typ.
- effective parallel resistance, Rch 4K ohm typ.
- aqueous washable

Applications

- biasing amplifiers
- biasing of laser diodes
- biasing of active antennas
- DOCSIS 3.1
- CATV
- GPON

Outline Drawing

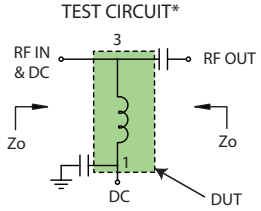


Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J
1.8	.866	.80	1.50	.328	.059	**1.77**	**0.8**	**0.551**
44.45	22.00	20.32	38.10	8.33	1.50	44.96	20.32	14.00

K	L	M	N	P	Q	R	wt
0.25	**0.04**	.09	0.2	0.055	0.45	1.05	grams
6.35	1.02	2.286	5.08	1.397	11.43	26.67	32.00

Electrical Schematic



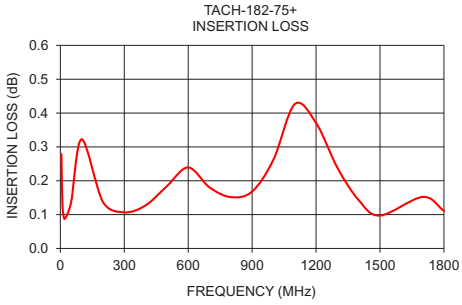
Electrical Specifications

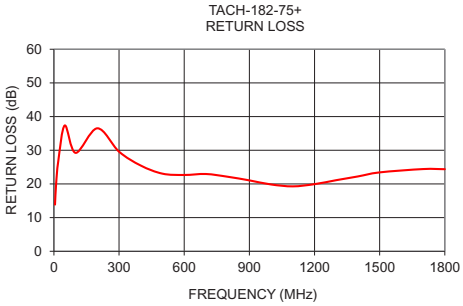
FREQ. RANGE (MHz)	INSERTION LOSS* (dB) Typ.	Max.	RETURN LOSS* (dB) Typ.	Min.	DC CURRENT (A) Max.	Peak	INDUCTANCE (µH) Typ. @ 0A
5-10	0.40	.6	14.0	12.0	15	25	5.4
50-1800	0.40	.6	20.0	16.0	15	25	5.4

* tested with circuit shown below, Zo=75 ohms

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)
5.0	0.28	13.86
10.0	0.13	19.89
20.0	0.09	26.73
50.0	0.13	37.37
100.0	0.32	29.23
200.0	0.14	36.52
300.0	0.11	29.58
400.0	0.13	25.45
500.0	0.18	23.05
600.0	0.24	22.66
700.0	0.18	22.95
800.0	0.15	22.13
900.0	0.17	21.06
1000.0	0.26	19.84
1100.0	0.43	19.28
1200.0	0.37	19.93
1300.0	0.24	21.11
1400.0	0.14	22.23
1500.0	0.10	23.43
1700.0	0.15	24.41
1800.0	0.11	24.37





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/MCLStore/terms.jsp

REV. A
ECO-004749
TACH-182-75+
RS/CP/AM
201027

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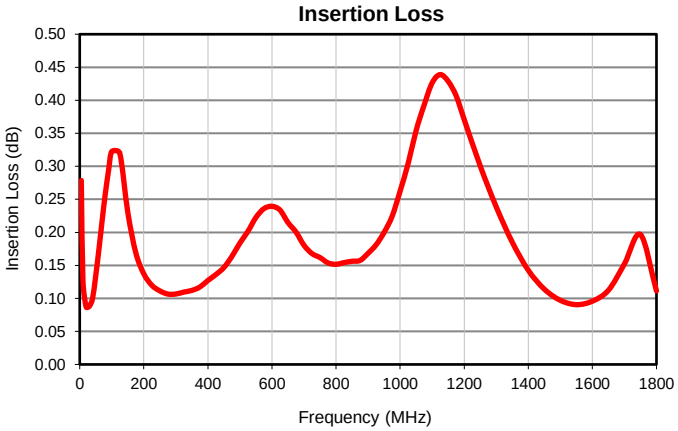
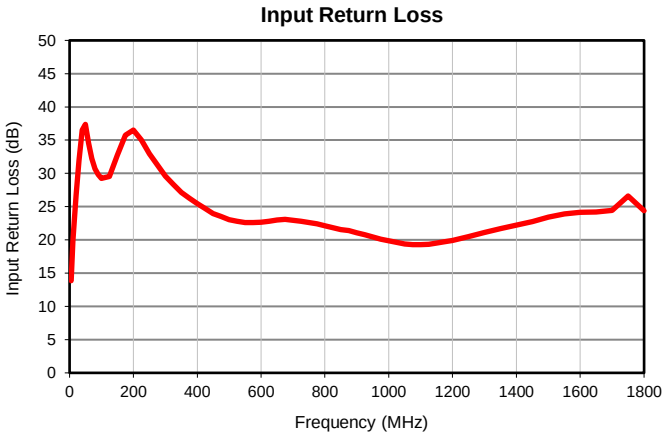
RF Choke TACH-182-75+

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	Return Loss (dB)
5	0.28	13.86
10	0.13	19.89
20	0.09	26.73
30	0.09	31.93
40	0.10	36.54
50	0.13	37.37
60	0.17	34.54
70	0.22	32.21
80	0.26	30.69
90	0.29	29.84
100	0.32	29.23
125	0.32	29.53
150	0.23	32.78
175	0.17	35.73
200	0.14	36.52
225	0.12	35.03
250	0.11	32.94
275	0.11	31.26
300	0.11	29.58
325	0.11	28.31
350	0.11	27.15
375	0.12	26.27
400	0.13	25.45
425	0.14	24.73
450	0.15	23.96
475	0.16	23.51
500	0.18	23.05
525	0.20	22.78
550	0.22	22.61
575	0.24	22.59
600	0.24	22.66
625	0.23	22.81
650	0.21	23.00
675	0.20	23.07
700	0.18	22.95
725	0.17	22.82
750	0.16	22.63
775	0.15	22.41
800	0.15	22.13
825	0.15	21.85
850	0.16	21.57
875	0.16	21.38
900	0.17	21.06
925	0.18	20.75
950	0.20	20.43
975	0.22	20.11
1000	0.26	19.84
1025	0.30	19.60
1050	0.35	19.38
1075	0.39	19.30
1100	0.43	19.28
1125	0.44	19.36
1150	0.43	19.51
1175	0.41	19.71
1200	0.37	19.93
1250	0.30	20.48
1300	0.24	21.11
1350	0.18	21.67
1400	0.14	22.23
1450	0.11	22.74
1500	0.10	23.43
1550	0.09	23.91
1600	0.10	24.13
1650	0.11	24.21
1700	0.15	24.41
1750	0.20	26.60
1800	0.11	24.37

Typical Performance Data

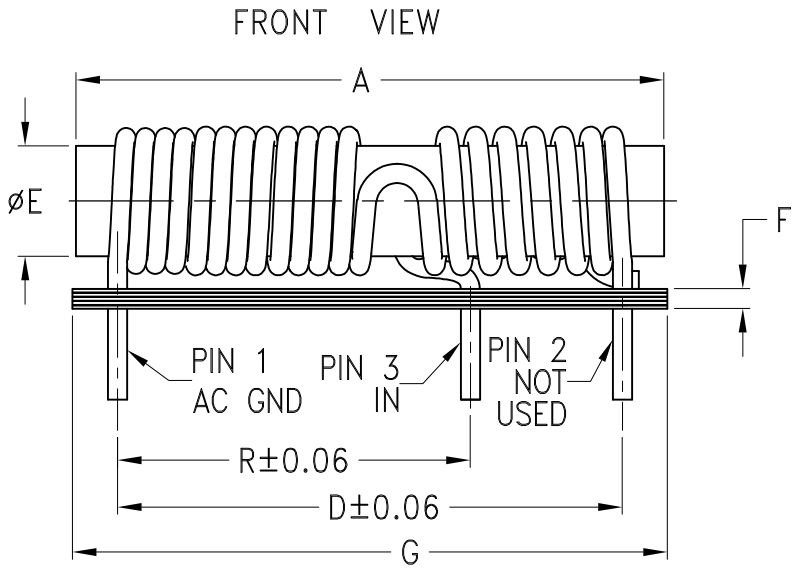


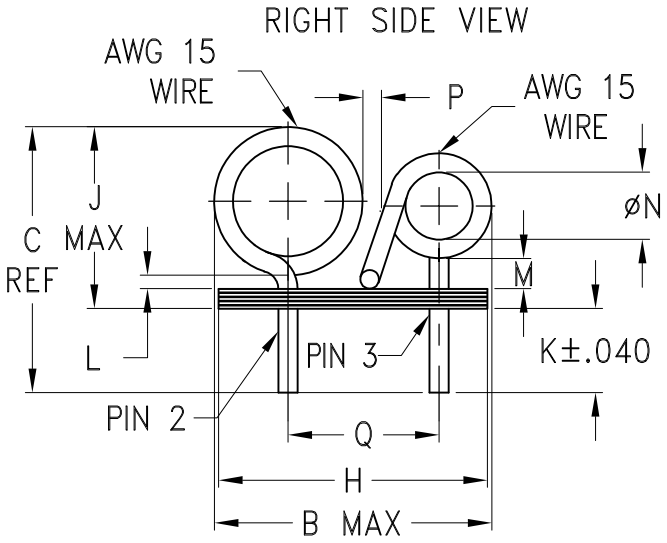


Case Style SD

Outline Dimensions

SD2827





CASE#	A	B	C	D	E	F	G	H	J	K	L	M	N
SD2827	1.75 [44.45]	.866 [22.00]	.80 [20.32]	1.50 [38.15]	.328 [8.33]	.059 [1.50]	1.77 [44.96]	.80 [20.32]	.551 [14.00]	.25 [6.35]	.040 [1.02]	.09 [2.29]	.200 [5.08]

CASE#	P	Q	R	WT, GRAM
SD2827	.055 [1.40]	.450 [11.43]	1.05 [26.67]	32.0

Dimensions are in inches [mm]. Tolerances: 2 Pl.±.03; 3 Pl. ±.015

Mini-Circuits

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