

Low Noise Amplifier

ZQL-1900LN+

50Ω

1850 to 1910 MHz

Features

- Very low noise figure, 1.5 dB max.
- High IP3, +37 dBm typ.
- Rugged, shielded case

Applications

- PCS
- UMTS
- Mobile satellite service



Generic photo used for illustration purposes only

Case Style: CW686

Connectors	Model
SMA	ZQL-1900LN+

+RoHS Compliant

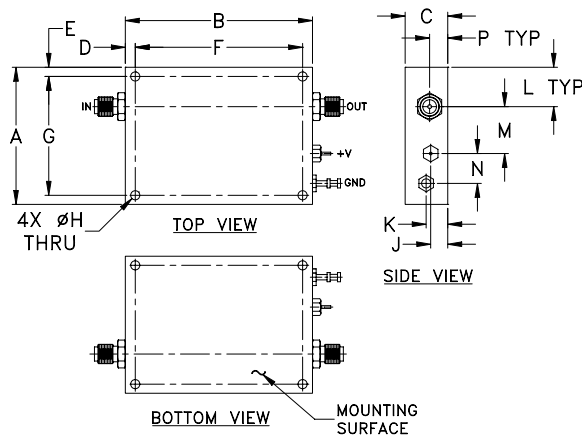
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Electrical Specifications

Parameter	Condition (MHz)	Min.	Typ.	Max.	Units
Frequency Range		1850		1910	MHz
Noise Figure	1850-1910	—	—	1.5	dB
Gain	1850-1910	15	—	—	dB
Gain Flatness	1850-1910	—	—	±0.5	dB
Output Power at 1dB compression	1850-1910	—	+19	—	dBm
Output third order intercept point	1850-1910	—	+37	—	dBm
Input VSWR	1850-1910	—	1.15	—	:1
Output VSWR	1850-1910	—	1.25	—	:1
DC Supply Voltage	1850-1910	—	15	—	V
Supply Current	1850-1910	—	—	160	mA

Open load is not recommended, potentially can cause damage.
With no load derate max input power by 20 dB

Outline Drawing



Maximum Ratings

Parameter	Ratings
Operating Temperature	-40°C to 70°C
Storage Temperature	-55°C to 100°C
DC Voltage	+17V
Input RF Power (no damage)	+10 dBm

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

Outline Dimensions (inch mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	wt
1.77	2.42	.55	.13	.12	2.165	1.535	.126	.22	.28	.51	.61	.39	0.22	grams
44.96	61.47	13.97	3.30	3.05	55.0	39.0	3.20	5.59	7.11	12.95	15.49	9.91	5.59	71.0

Notes

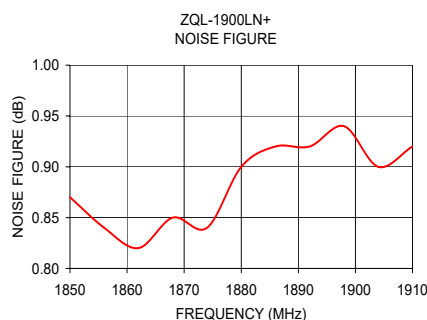
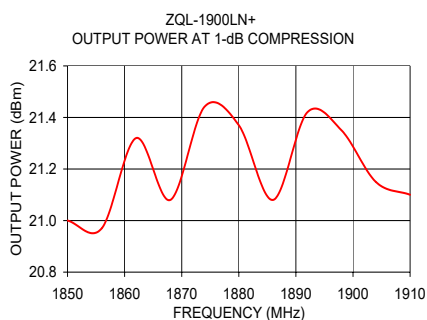
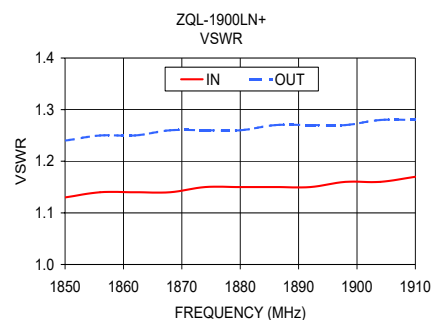
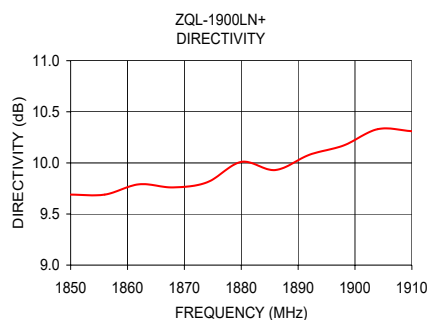
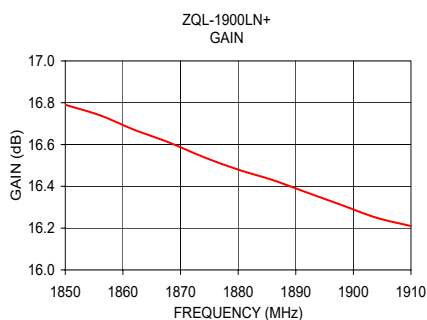
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FREQUENCY (MHz)	GAIN (dB)	DIRECTIVITY (dB)	VSWR (:1)		NOISE FIGURE (dB)	POUT at 1 dB COMPR. (dBm)
	15V		IN	OUT		15V
1850.00	16.79	9.69	1.13	1.24	0.87	21.00
1856.00	16.74	9.69	1.14	1.25	0.84	20.97
1862.00	16.67	9.79	1.14	1.25	0.82	21.32
1868.00	16.61	9.76	1.14	1.26	0.85	21.08
1874.00	16.54	9.81	1.15	1.26	0.84	21.44
1880.00	16.48	10.01	1.15	1.26	0.90	21.37
1886.00	16.43	9.93	1.15	1.27	0.92	21.08
1892.00	16.37	10.08	1.15	1.27	0.92	21.42
1898.00	16.31	10.17	1.16	1.27	0.94	21.35
1904.00	16.25	10.33	1.16	1.28	0.90	21.15
1910.00	16.21	10.31	1.17	1.28	0.92	21.10



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Typical Performance Data

FREQUENCY (MHz)	GAIN (dB) 15V	DIRECTIVITY (dB) 15V	VSWR IN (:1) 15V	VSWR OUT (:1) 15V	NOISE FIGURE (dB) 15V	Pout at 1dB Comp. (dBm) 15V
1700.0	17.42	9.30	1.16	1.15	0.76	21.49
1800.0	17.01	9.54	1.03	1.17	0.69	21.28
1850.0	16.74	9.81	1.06	1.23	0.79	21.41
1865.0	16.63	9.77	1.08	1.26	0.78	21.73
1874.0	16.56	9.93	1.09	1.27	0.78	21.43
1886.0	16.44	10.00	1.10	1.28	0.79	21.44
1901.0	16.34	10.41	1.12	1.30	0.83	21.74
1910.0	16.26	10.31	1.13	1.31	0.85	21.41
1940.0	16.08	10.54	1.16	1.34	0.79	21.48
2000.0	15.47	11.39	1.16	1.35	0.86	21.46

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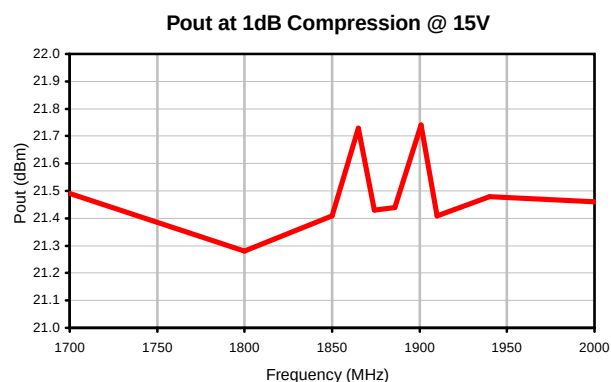
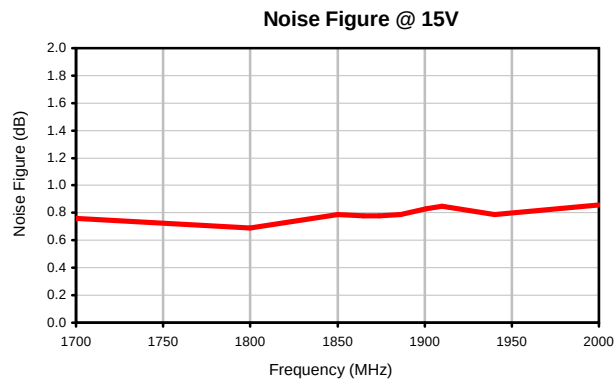
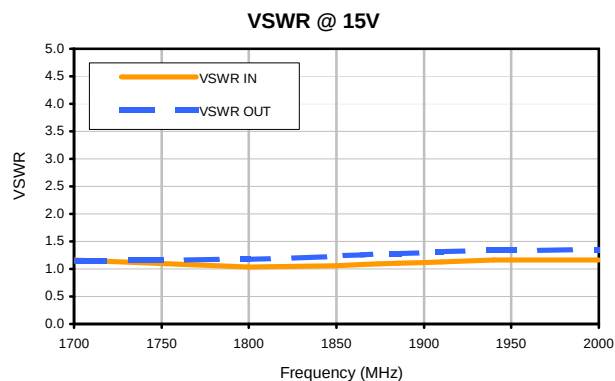
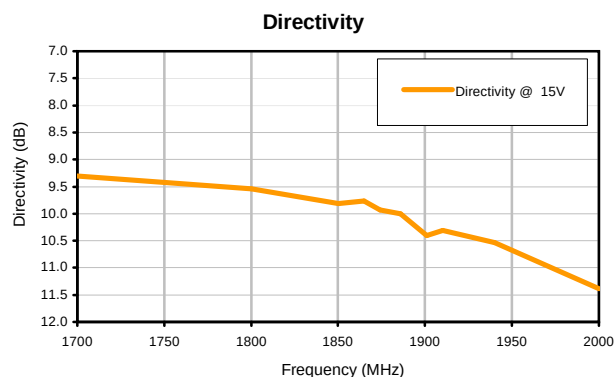
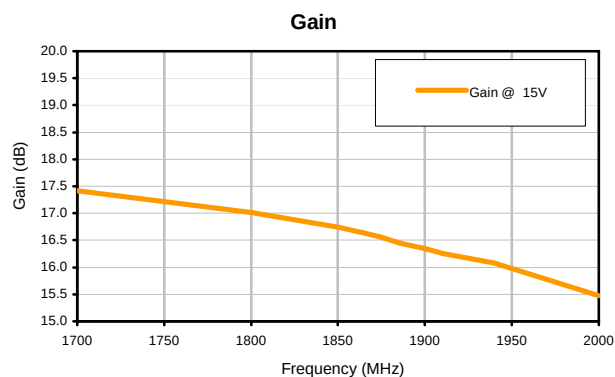
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Typical Performance Curves



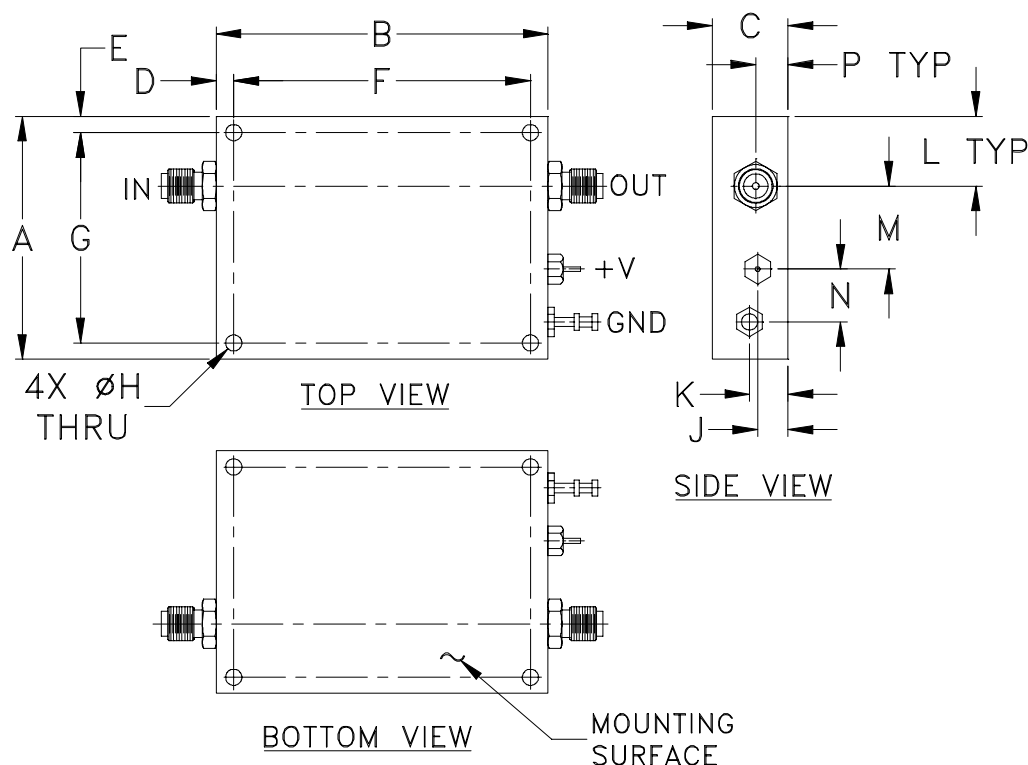
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Outline Dimensions



CASE#	A	B	C	D	E	F	G	H	J	K	L	M	N
CW686	1.77 (44.96)	2.42 (61.47)	.55 (13.97)	.13 (3.30)	.12 (3.05)	2.165 (54.99)	1.535 (38.99)	.126 (3.20)	.22 (5.59)	.28 (7.11)	.51 (12.95)	.61 (15.49)	.39 (9.91)

CASE#	P	Q	WT. GRAMS
CW686	.22 (5.59)	--	71

Dimensions are in inches (mm). Tolerances: 2 Pl. $\pm .03$; 3 Pl. $\pm .015$

Notes:

- Case material: Aluminum alloy.
- Case finish:

For RoHS Case Styles:

Clear chemical conversion coating, non-chrome or trivalent chrome based.



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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 70° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Stabilization Bake	(non-operating) 125°C, 24 hours	- - -
Burn-in at Elevated Temp.	(DC on) 160 hours at 85° C	MIL-STD-202, Method 108
Thermal Shock	-55° to 85°C, 5 cycles	MIL-STD-202, Method 107, Condition A