Coaxial

Low Noise Amplifier

ZEL-1724LN+

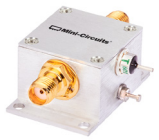
50Ω 1700 to 2400 MHz

Features

- very low noise figure, 1.5 dB max.
- wideband, 1700 to 2400 MHz
- rugged, shielded case

Applications

- PCS/DCS
- UMTS
- communication systems



Generic photo used for illustration purposes only

Case Style: EEE132

Connectors	Model
SMA	ZEL-1724LN+

+RoHS Compliant

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

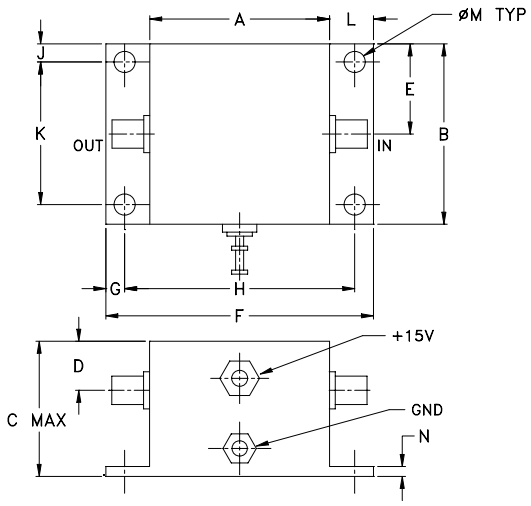
Electrical Specifications

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Frequency Range		1700		2400	MHz
Noise Figure	1700-2400	—	—	1.5	dB
Gain	1700-2400	20	—	—	dB
Gain Flatness	1700-2400	—	—	±1.0	dB
Output Power at 1dB compression	1700-2400	—	+8	—	dBm
Output third order intercept point	1700-2400	—	+22	—	dBm
Input VSWR	1700-2400	—	—	2.5	:1
Output VSWR	1700-2400	—	—	2.5	:1
DC Supply Voltage		—	15	—	V
Supply Current		—	—	70	mA

Noise Figure specified at room temperature, increases to 2 dB typical at +85°C

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	-54°C to 85°C
Storage Temperature	-55°C to 100°C
DC Voltage	17V
Input RF Power (no damage)	+13 dBm

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

Outline Dimensions (inch / mm)

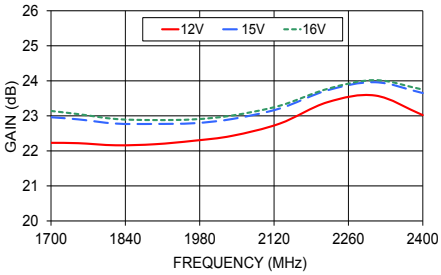
A	B	C	D	E	F	G	H	J	K	L	M	N	wt
.90	.90	.675	.245	.45	1.34	.09	1.152	.09	.712	.22	.106	.05	grams
22.86	22.86	17.15	6.22	11.43	34.04	2.29	29.26	2.29	18.08	5.59	2.69	1.27	50.0

Notes

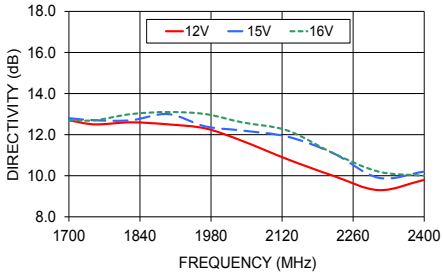
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's 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

FREQUENCY (MHz)	GAIN (dB)			DIRECTIVITY (dB)			VSWR (:1)		NOISE FIGURE (dB)	POUT at 1 dB COMPR. (dBm)
	12V	15V	16V	12V	15V	16V	IN	OUT	15V	15V
1700.00	22.23	22.96	23.14	12.70	12.80	12.70	1.61	1.64	1.28	11.46
1751.20	22.22	22.90	23.05	12.50	12.70	12.70	1.63	1.65	1.31	11.45
1821.90	22.16	22.78	22.91	12.60	12.70	13.00	1.66	1.65	1.40	11.64
1895.50	22.19	22.77	22.88	12.50	13.00	13.10	1.69	1.60	1.45	11.65
1969.20	22.29	22.79	22.90	12.30	12.40	13.00	1.68	1.55	1.47	11.79
2041.00	22.43	22.91	23.01	11.70	12.20	12.60	1.65	1.48	1.46	11.86
2130.80	22.78	23.21	23.29	10.80	11.90	12.20	1.55	1.38	1.39	12.00
2220.50	23.39	23.73	23.77	10.00	11.10	11.10	1.37	1.29	1.32	12.00
2310.30	23.58	23.96	24.02	9.30	9.90	10.20	1.23	1.38	1.31	11.58
2400.00	23.02	23.65	23.75	9.80	10.20	10.00	1.50	1.77	1.44	10.58

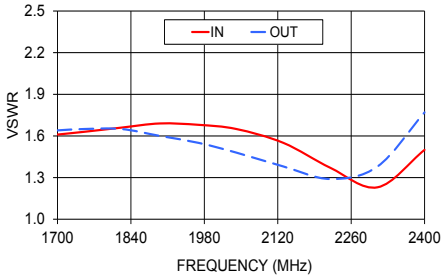
ZEL-1724LN
GAIN



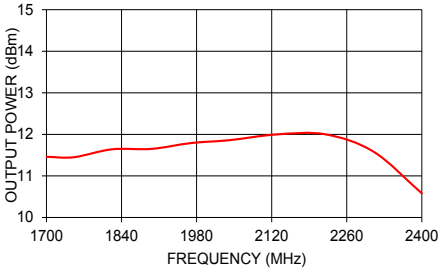
ZEL-1724LN
DIRECTIVITY



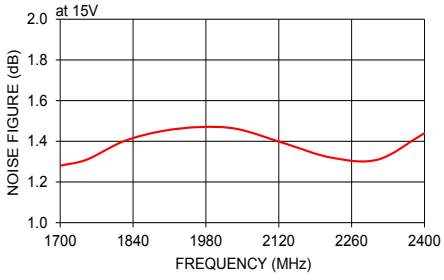
ZEL-1724LN
VSWR



ZEL-1724LN
OUTPUT POWER AT 1-dB COMPRESSION



ZEL-1724LN
NOISE FIGURE



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Low Noise Amplifier ZEL-1724LN+

Typical Performance Data

FREQUENCY (MHz)	GAIN (dB)			DIRECTIVITY (dB)			VSWR IN (:1)	VSWR OUT (:1)	NOISE FIGURE (dB)	Pout at 1dB Comp. (dBm)
	12V	15V	16V	12V	15V	16V	15V	15V	15V	15V
1700.0	22.23	22.96	23.14	12.70	12.80	12.70	1.61	1.64	1.28	11.46
1751.2	22.22	22.90	23.05	12.50	12.70	12.70	1.63	1.65	1.31	11.45
1821.9	22.16	22.78	22.91	12.60	12.70	13.00	1.66	1.65	1.40	11.64
1895.5	22.19	22.77	22.88	12.50	13.00	13.10	1.69	1.60	1.45	11.65
1969.2	22.29	22.79	22.90	12.30	12.40	13.00	1.68	1.55	1.47	11.79
2041.0	22.43	22.91	23.01	11.70	12.20	12.60	1.65	1.48	1.46	11.86
2130.8	22.78	23.21	23.29	10.80	11.90	12.20	1.55	1.38	1.39	12.00
2220.5	23.39	23.73	23.77	10.00	11.10	11.10	1.37	1.29	1.32	12.00
2310.3	23.58	23.96	24.02	9.30	9.90	10.20	1.23	1.38	1.31	11.58
2400.0	23.02	23.65	23.75	9.80	10.20	10.00	1.50	1.77	1.44	10.58

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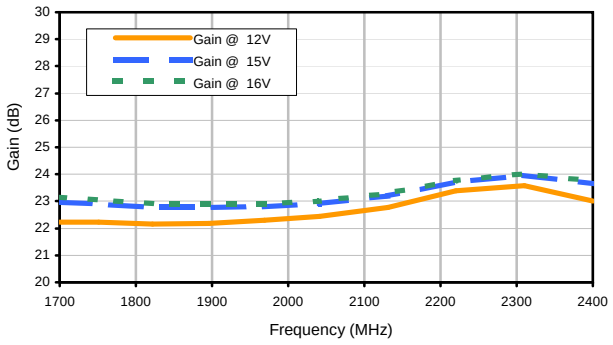
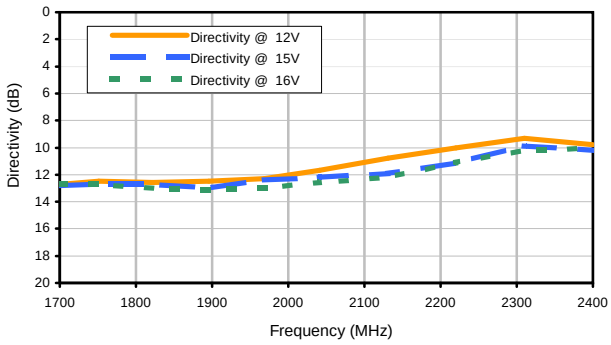
Typical Performance Curves

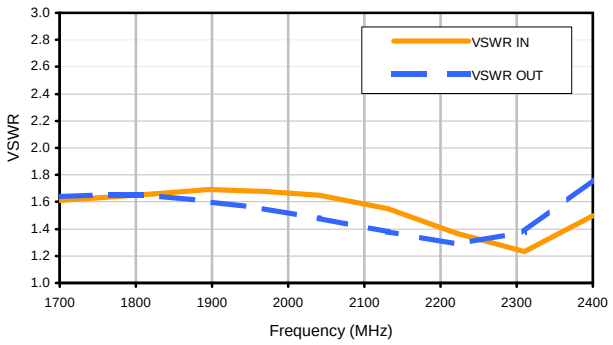
Gain



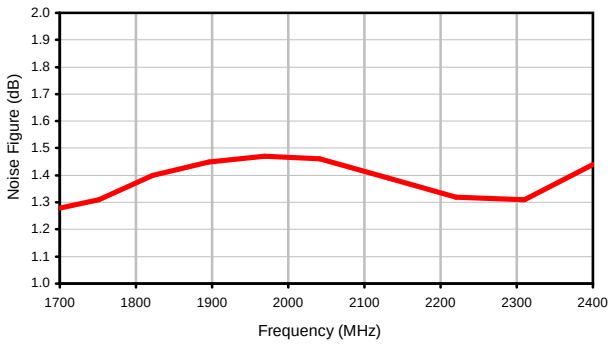
Directivity



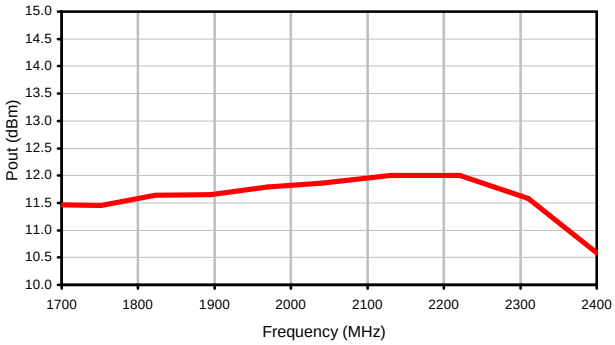
VSWR @ 15V



Noise Figure @ 15V



Pout at 1dB Compression @ 15V



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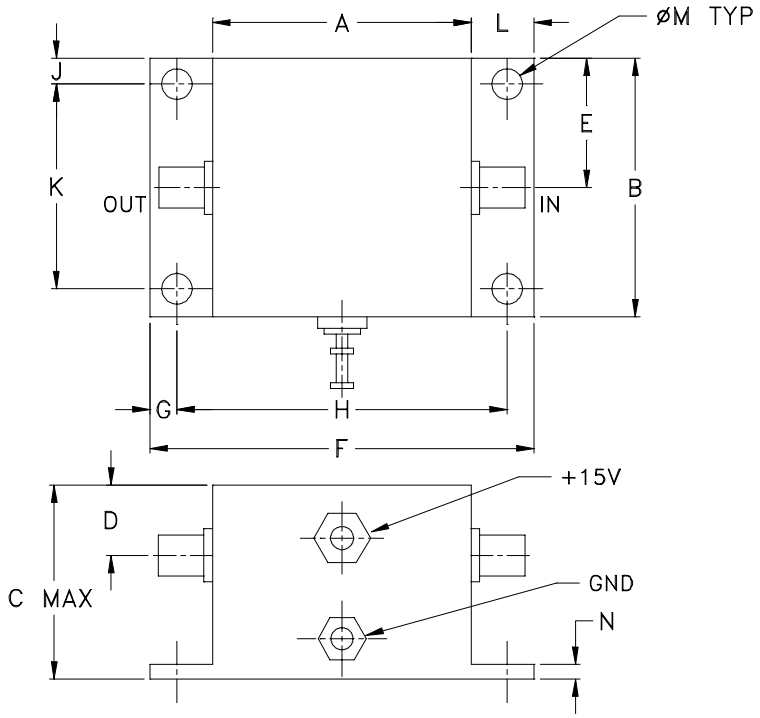
Case Style EEE

EEE132

Outline Dimensions



CASE #	A	B	C	D	E	F	G	H	J	K	L
EEE132	.90 (22.86)	.90 (22.86)	.675 (17.15)	.245 (6.22)	.45 (11.43)	1.34 (34.04)	.09 (2.29)	1.152 (29.26)	.09 (2.29)	.712 (18.08)	.22 (5.59)

CASE #	M	N	WT. GRAM
EEE132	.106 (2.69)	.05 (1.27)	50.0

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

Notes:

1. Case material: Aluminum alloy.
2. Case finish:
   For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.

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Mini-Circuits

Environmental Specifications **ENV23T1**

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	-54° to 85°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 100°C, 5 cycles	MIL-STD-202, Method 107, Condition A, except 100°C

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