L4000 Filtered LNA

Outdoor Low Noise Amplifiers with BPF

UHF, L, and S bands
High Gain & Outband Rejection

Key Features

- UHF, L, and S bands
- Low Noise Figure
- High Passband Gain
- Excellent Outband Rejection
- IP67 for Outdoor Operation
- Environmental Robustness

Applications

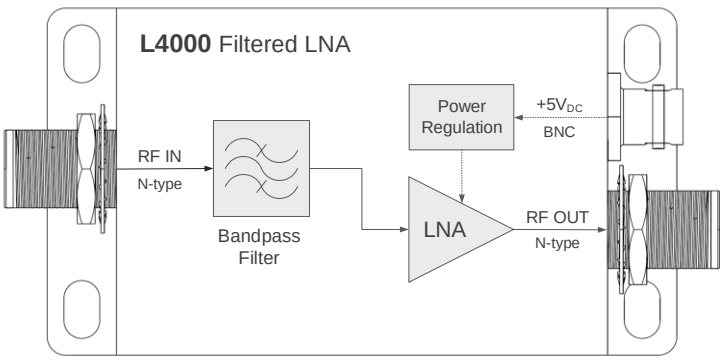
- Wireless Data Links
- Base Station Transceivers
- Airborne Receivers
- Radar & Navigation Systems
- GPS, Galileo, GLONASS
- Radio Astronomy
- Industrial, Scientific, Medical (ISM)
- Wi-Fi, WIMAX

L4000 are Low Noise Amplifiers with bandpass pre-filtering for outdoor operation.

The LNA features low noise figure, high passband gain, and excellent outband rejection. The series includes models to cover different UHF, L, and S bands.

Typically placed close to a passive antenna, L4000 fixes the system noise figure, improving receiver sensitivity while protecting the next stages against out-of-band interference and jamming.

The amplifiers have a rugged design for operating in harsh environments, including IP67 aluminium enclosure, extended temperature range, and vibration/shock robustness.



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L4000 Filtered Low Noise Amplifiers

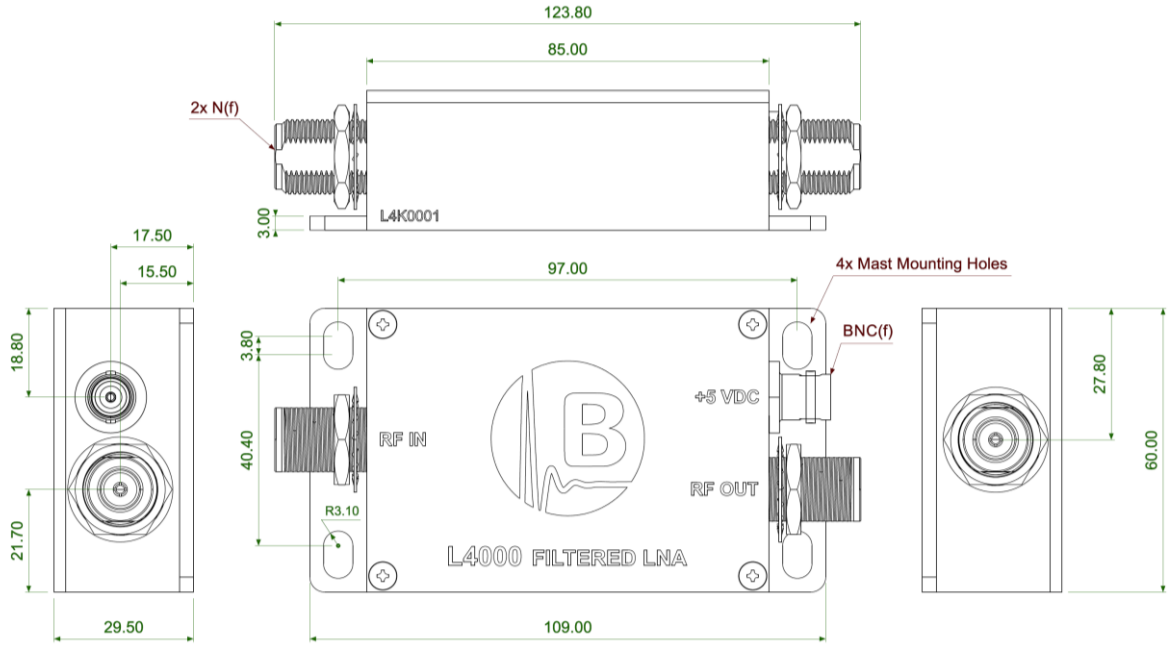
Series Specifications

V_{DC}=5V, 25ºC

Part Number	Passband Frequency, MHz		Gain, dB	Gain Flatness, dB		Noise Figure, dB
	Min.	*Max.*	*Typ.*	*vs Freq.*	*vs Temp.*	*Typ.*
L4000-0772	760	785	20.3	± 0.1	± 0.7	2.3
L4000-0845	790	900	20.6	± 0.3	± 0.9	1.7
L4000-0885	855	915	20.2	± 0.2	± 0.8	2.0
L4000-0912	890	935	19.8	± 0.2	± 0.9	2.3
L4000-0935	890	980	19.6	± 0.5	± 1.2	2.0
L4000-1020	950	1090	18.4	± 0.9	± 1.5	1.8
L4000-1055	995	1115	17.8	± 0.5	± 1.2	1.9
L4000-1090	1060	1120	17.5	± 0.1	± 0.7	2.2
L4000-1175	1100	1250	17.3	± 0.7	± 1.3	1.8
L4000-1220	1130	1310	16.8	± 0.6	± 1.3	1.9
L4000-1227	1205	1250	16.3	± 0.2	± 0.8	2.4
L4000-1230	1100	1360	16.9	± 0.8	± 1.4	1.8
L4000-1250	1180	1320	16.5	± 0.2	± 0.8	2.0
L4000-1255	1210	1300	16.2	± 0.2	± 0.8	2.1
L4000-1290	1140	1440	16.7	± 0.5	± 1.1	1.8
L4000-1307	1215	1400	16.5	± 0.2	± 0.8	1.8
L4000-1350	1300	1400	16.2	± 0.2	± 0.8	2.1
L4000-1555	1525	1585	15.7	± 0.1	± 0.7	2.2
L4000-1755	1710	1800	15.9	± 0.1	± 0.7	2.0
L4000-1950	1900	2020	15.4	± 0.2	± 0.8	2.2
L4000-2225	2000	2450	14.0	± 1.2	± 1.8	2.0
L4000-2400	2150	2650	13.0	± 1.1	± 1.9	2.3

Electrical	
Output 1 dB Compression, P_{1dB}	20 dBm (min.)
Supply Voltage, V_{DC}	+3.3V to +7V
Supply Current, V_{DC}=5V	70 mA (typ.)
Maximum Ratings	
Supply Voltage, V_{DC}	+8V
RF Input Power	20 dBm
Operating Temperature	-40ºC…+85ºC
Storage Temperature	-55ºC…+100ºC
Mechanical	
RF Connectors	N-type 50Ω
Power Supply Connector	BNC 50Ω
Dimensions	85x60x29.5 mm
Weight	245 g
Enclosure Material	Aluminium
Environmental	
Ingress Protection Rating	IP67
Temperature, Vibration, Shock	MIL-STD-810
EMI/EMC	MIL-STD-461
RoHS	Yes

Outline Drawing



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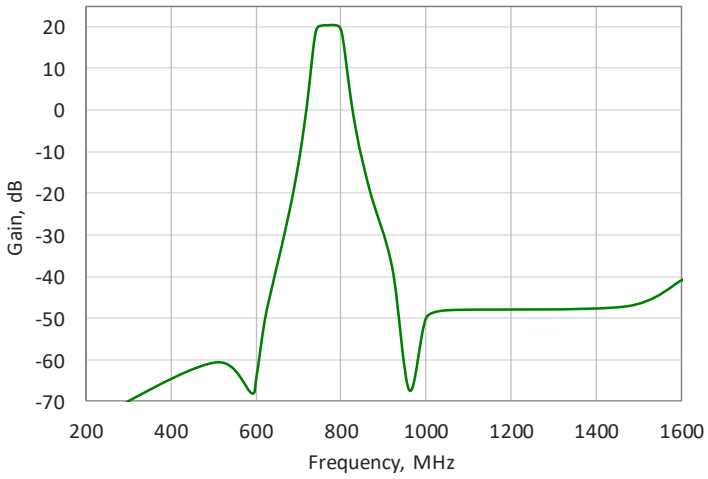
Typical Performance Characteristics

V_{DC}=5V, ← 760-785MHz, → 790-900MHz

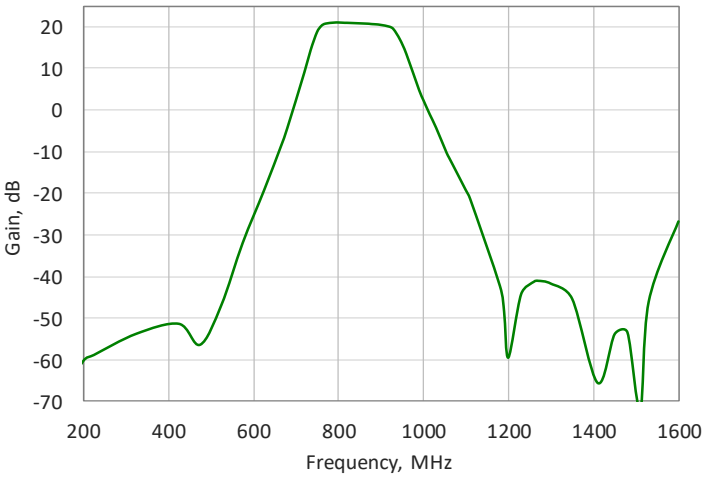
L4000-0772

Gain vs Frequency at 25°C



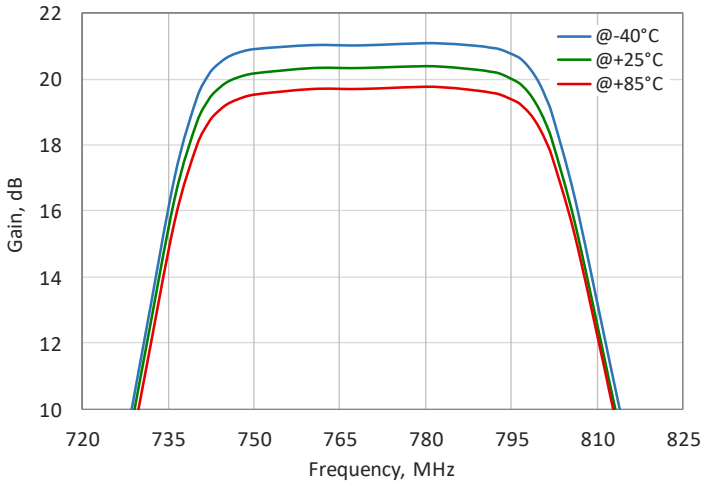
L4000-0845

Gain vs Frequency at 25°C



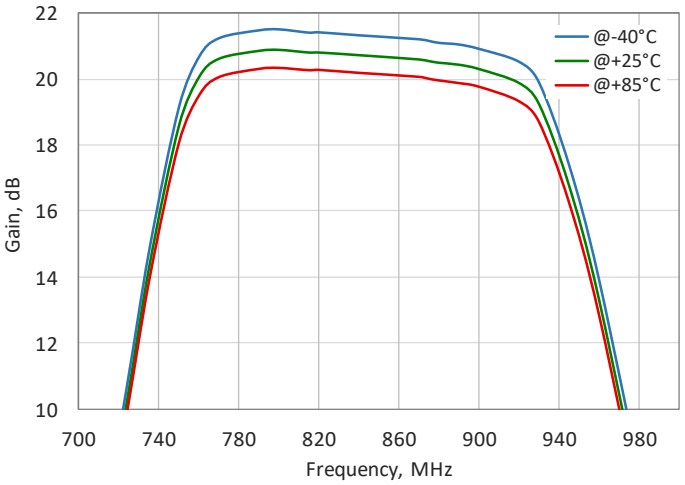
L4000-0772

Passband Gain vs Temperature



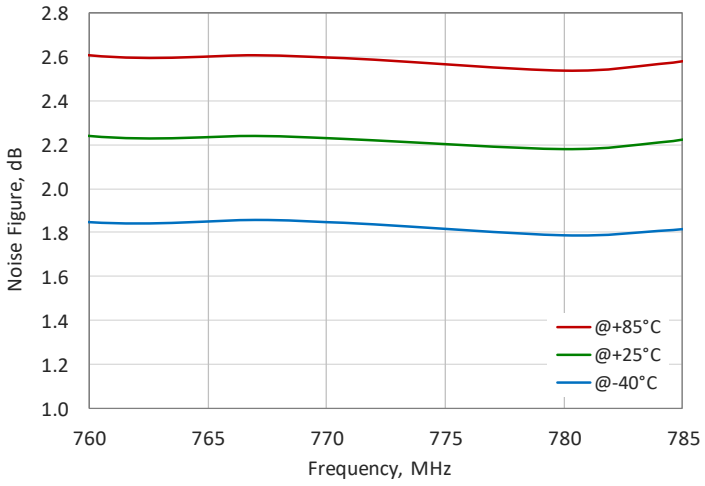
L4000-0845

Passband Gain vs Temperature



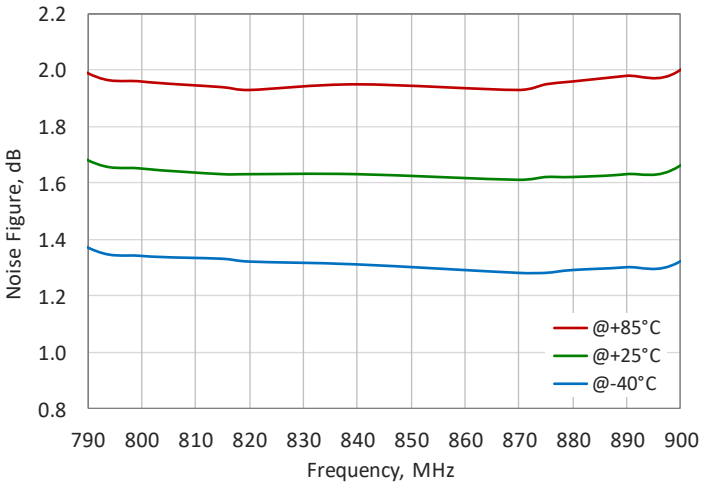
L4000-0772

Passband Noise Figure vs Temperature



L4000-0845

Passband Noise Figure vs Temperature



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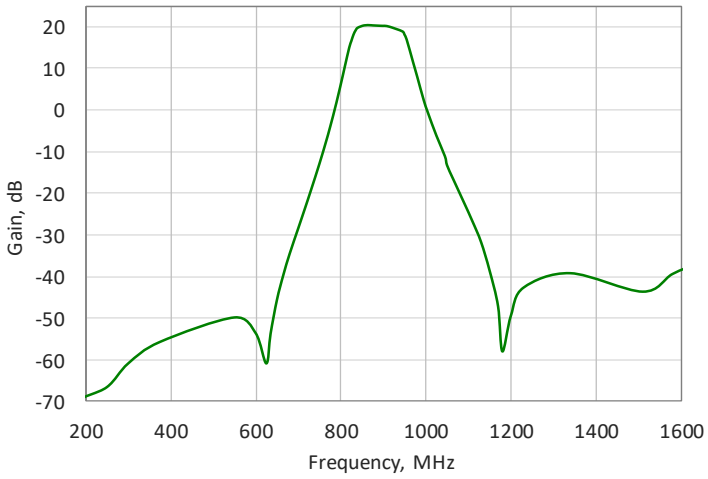
Typical Performance Characteristics

V_{DC}=5V, ← 855-915MHz, → 890-935MHz

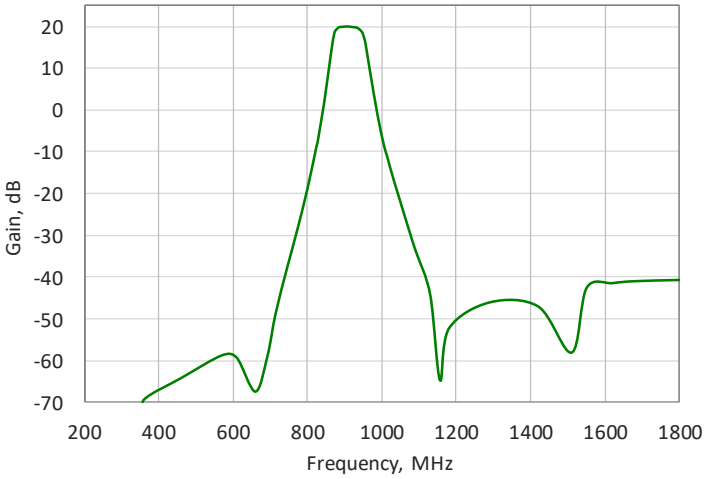
L4000-0885

Gain vs Frequency at 25°C



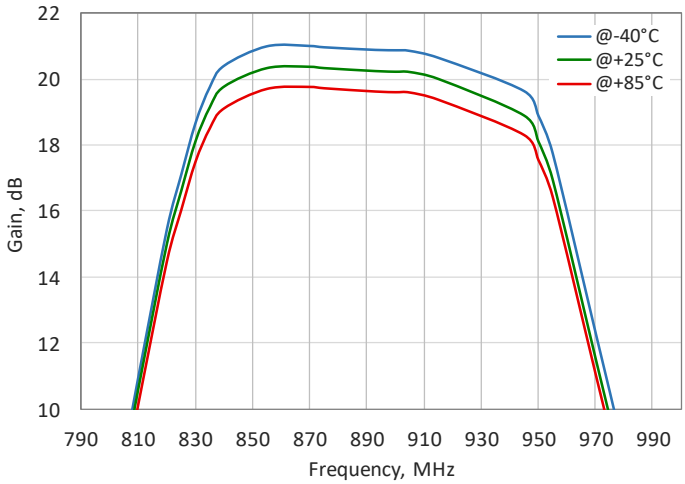
L4000-0912

Gain vs Frequency at 25°C



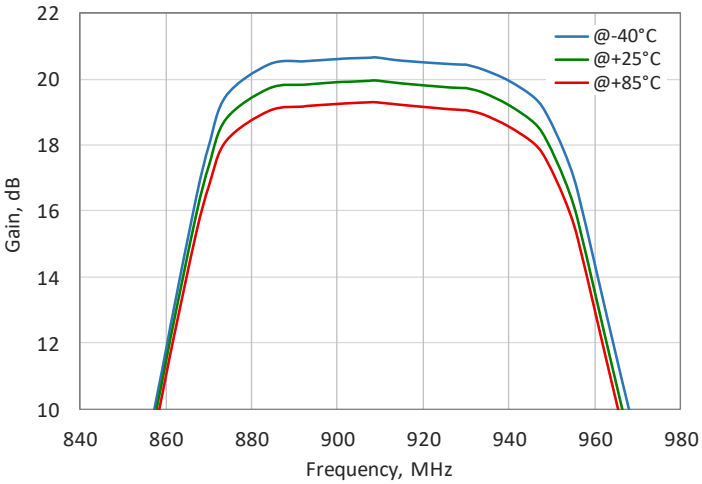
L4000-0885

Passband Gain vs Temperature



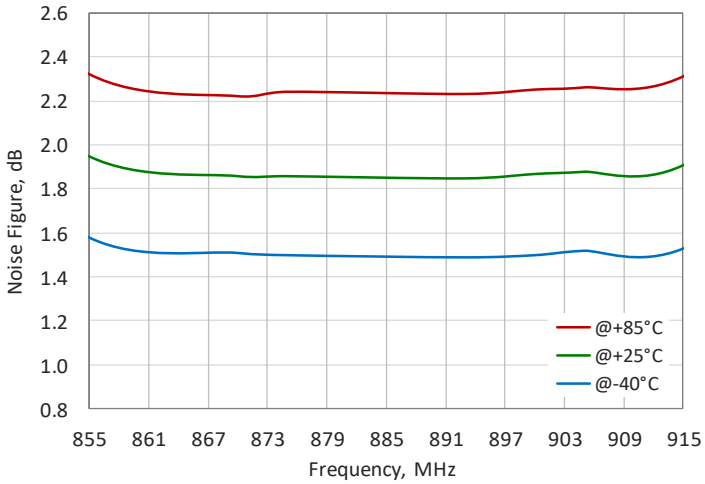
L4000-0912

Passband Gain vs Temperature



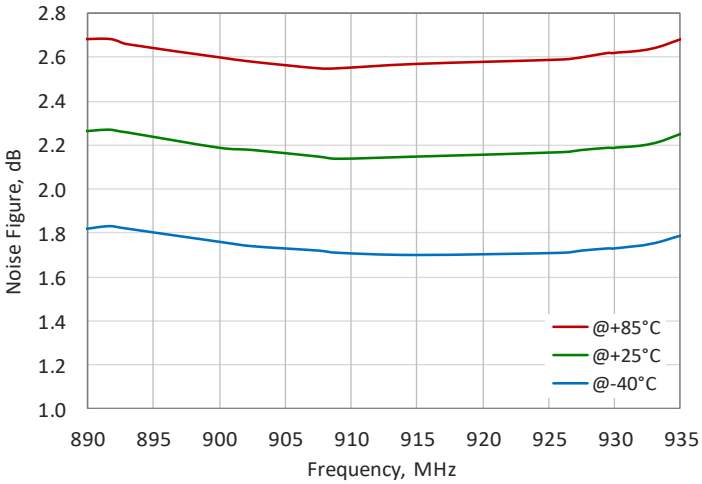
L4000-0885

Passband Noise Figure vs Temperature



L4000-0912

Passband Noise Figure vs Temperature

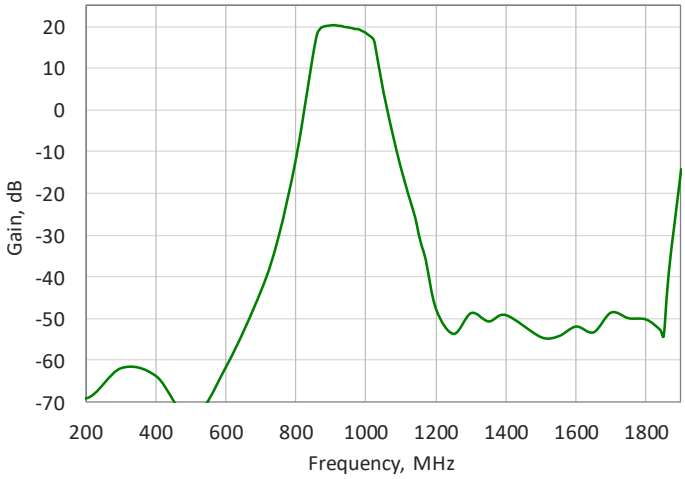


Typical Performance Characteristics

V_{DC}=5V, ← 890-980MHz, → 950-1090MHz

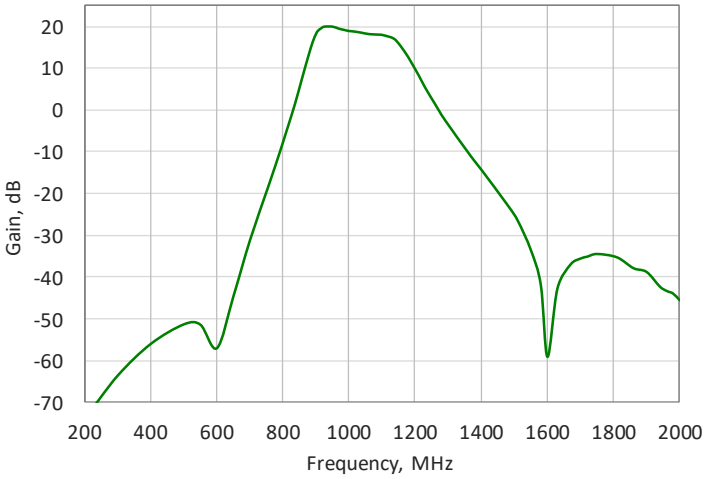
L4000-0935

Gain vs Frequency at 25°C



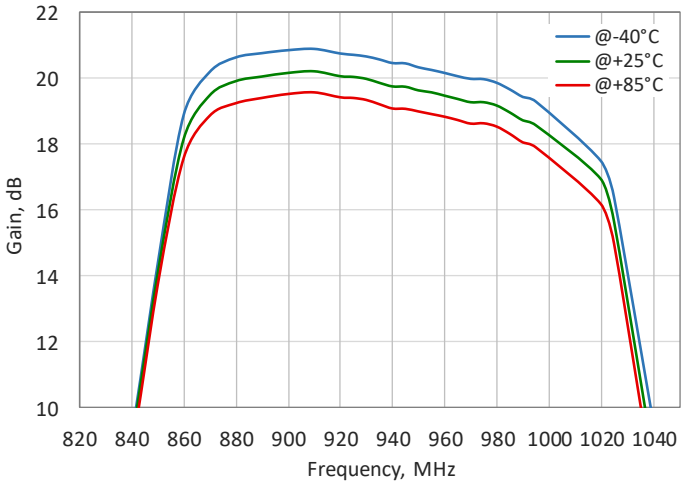
L4000-1020

Gain vs Frequency at 25°C



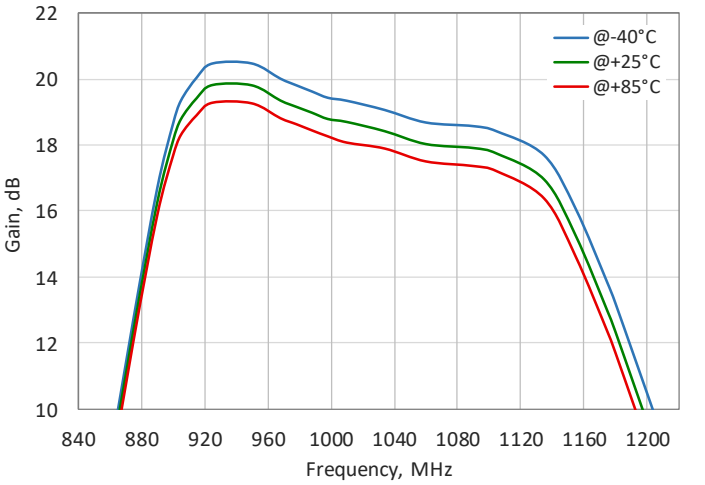
L4000-0935

Passband Gain vs Temperature



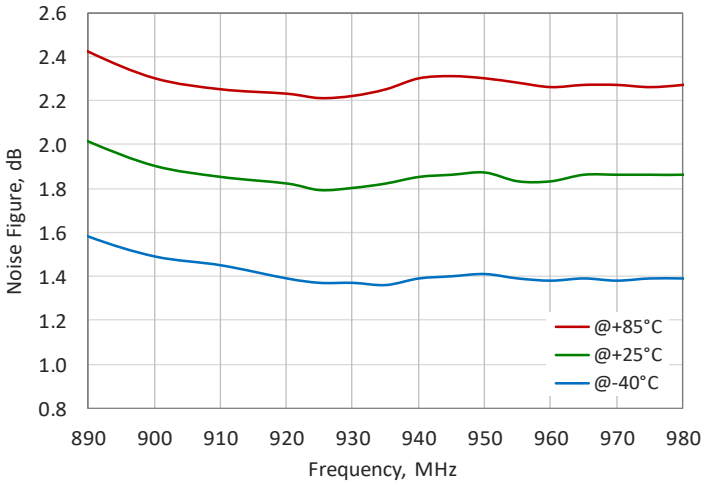
L4000-1020

Passband Gain vs Temperature



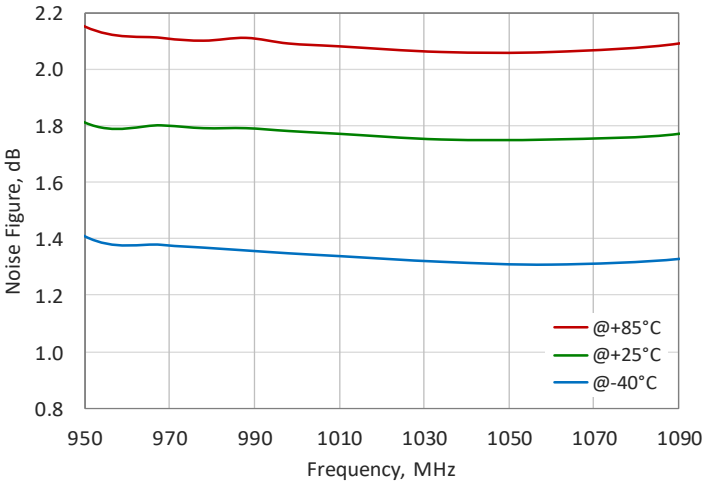
L4000-0935

Passband Noise Figure vs Temperature



L4000-1020

Passband Noise Figure vs Temperature

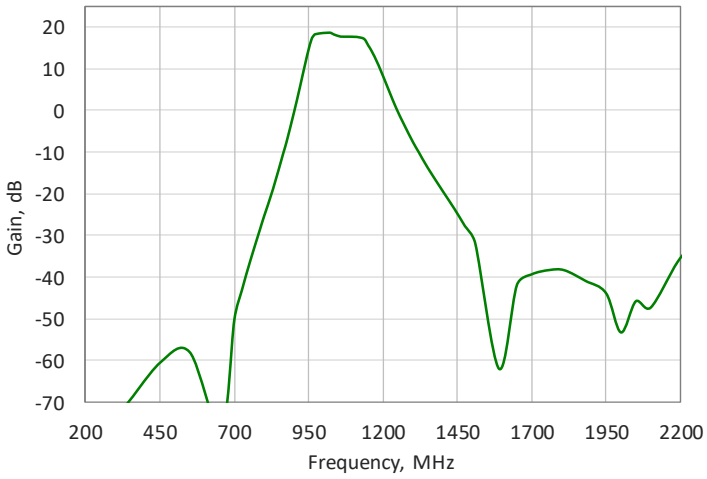


Typical Performance Characteristics

V_{DC}=5V, ← 995-1115MHz, → 1060-1120MHz

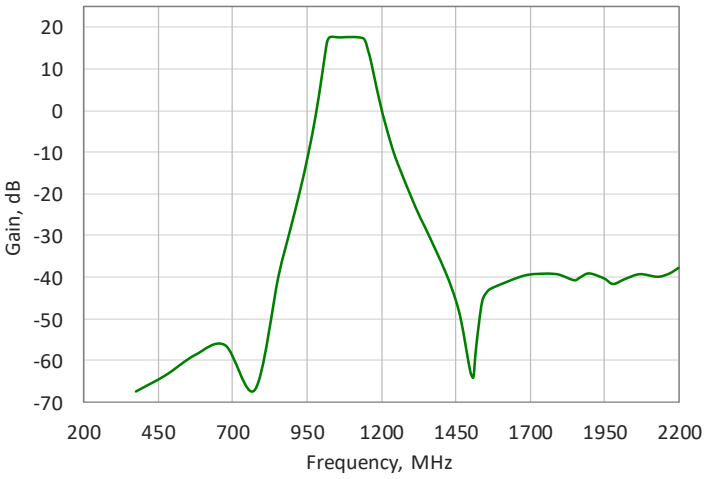
L4000-1055

Gain vs Frequency at 25°C



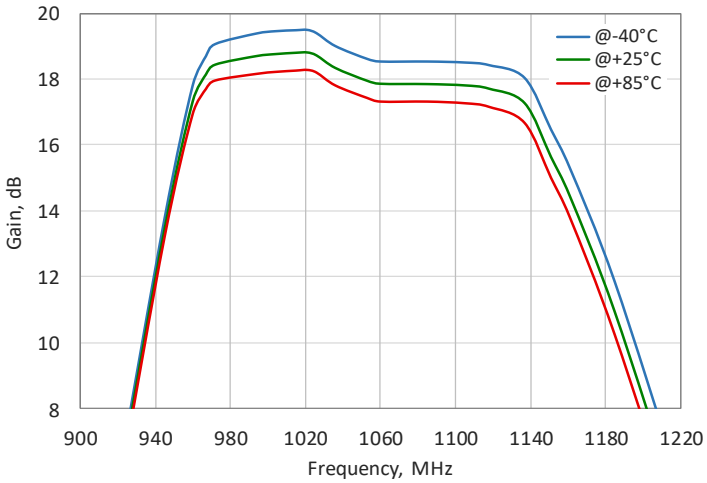
L4000-1090

Gain vs Frequency at 25°C



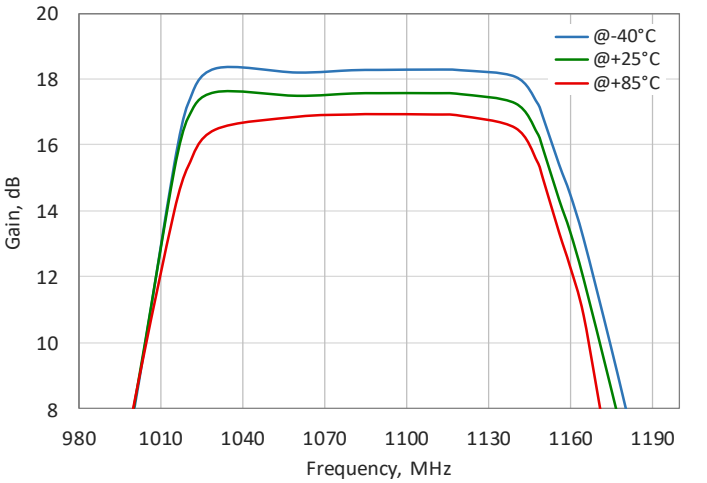
L4000-1055

Passband Gain vs Temperature



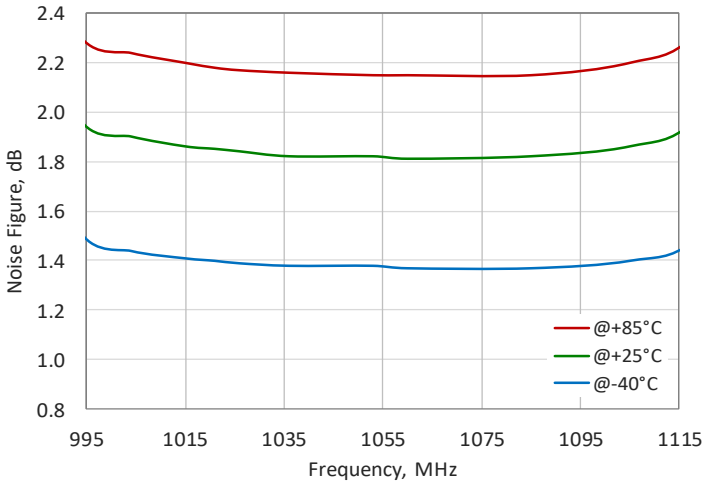
L4000-1090

Passband Gain vs Temperature



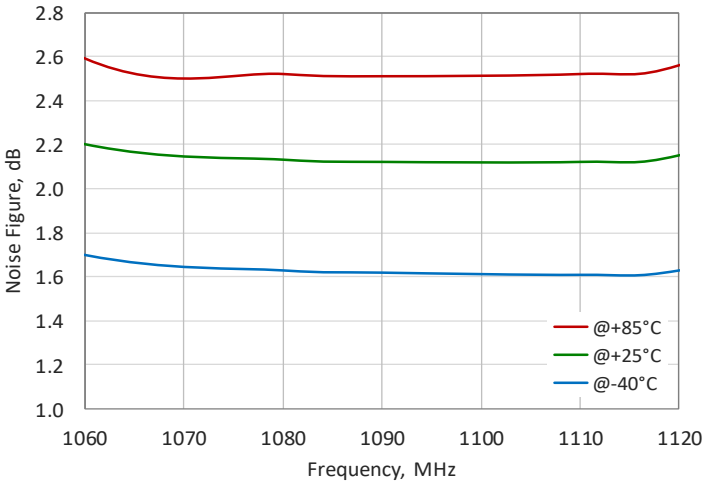
L4000-1055

Passband Noise Figure vs Temperature



L4000-1090

Passband Noise Figure vs Temperature

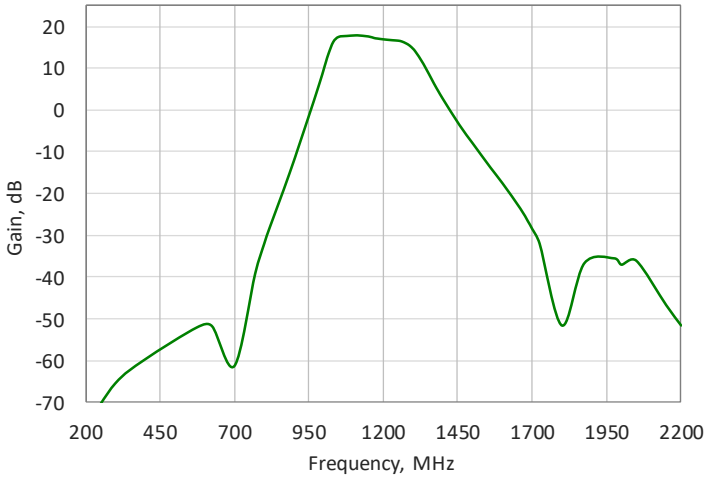


Typical Performance Characteristics

V_{DC}=5V, ← 1100-1250MHz, → 1130-1310MHz

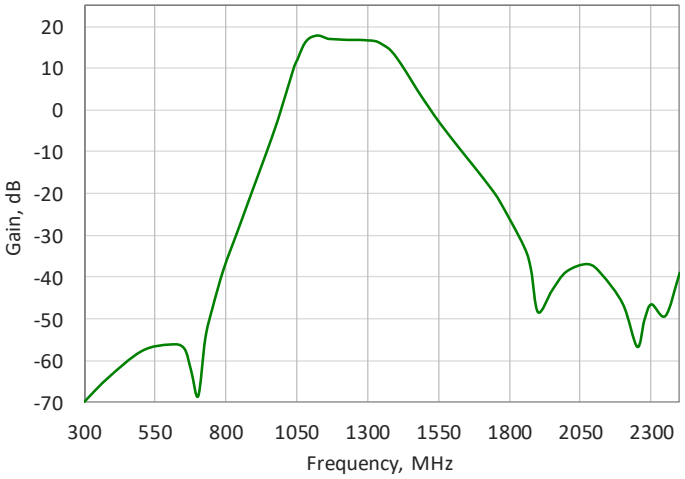
L4000-1175

Gain vs Frequency at 25°C



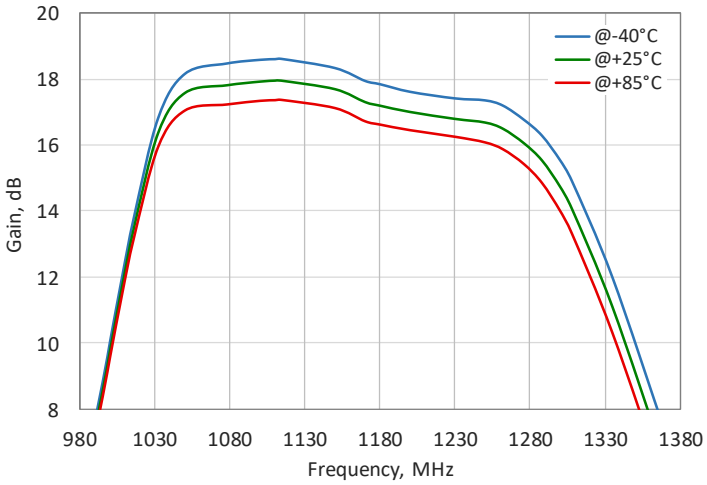
L4000-1220

Gain vs Frequency at 25°C



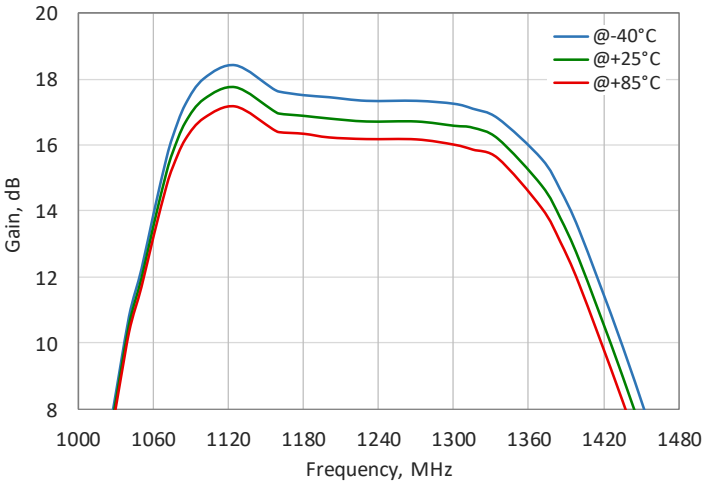
L4000-1175

Passband Gain vs Temperature



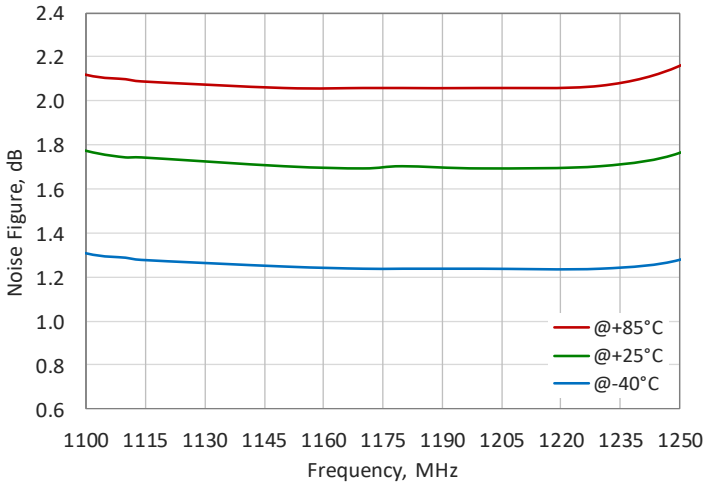
L4000-1220

Passband Gain vs Temperature



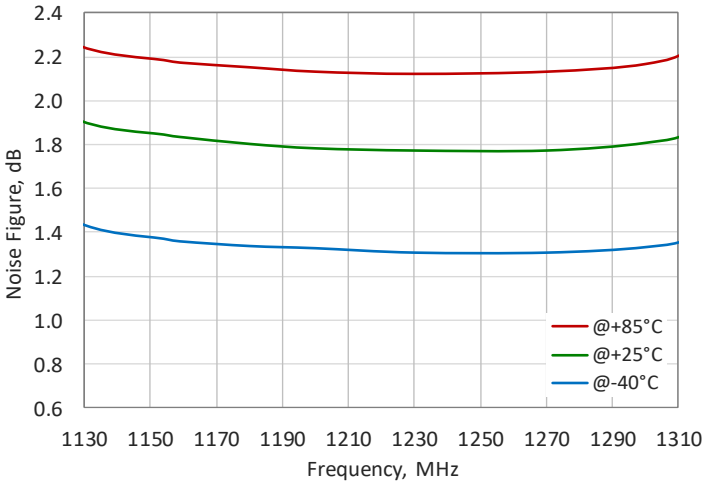
L4000-1175

Passband Noise Figure vs Temperature



L4000-1220

Passband Noise Figure vs Temperature

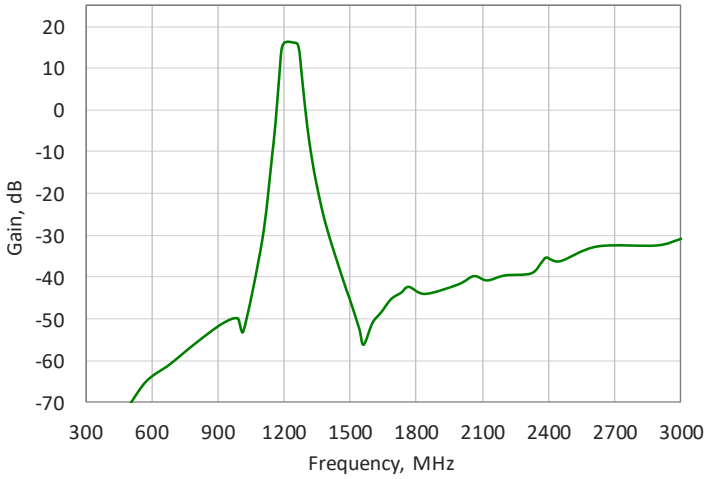


Typical Performance Characteristics

V_{DC}=5V, ← 1205-1250MHz, → 1100-1360MHz

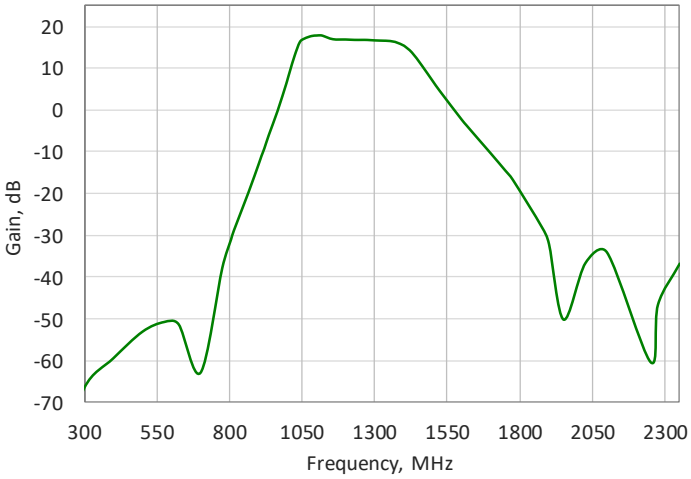
L4000-1227

Gain vs Frequency at 25°C



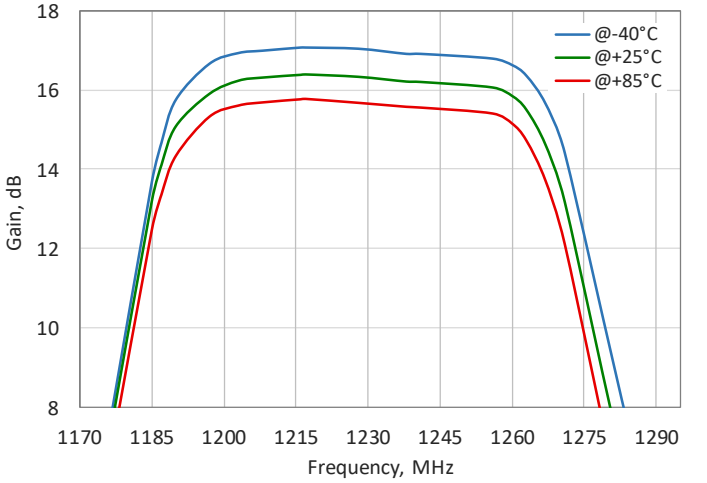
L4000-1230

Gain vs Frequency at 25°C



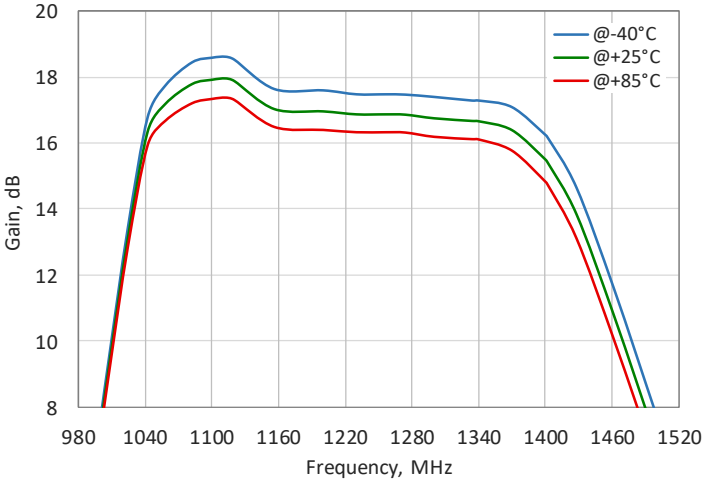
L4000-1227

Passband Gain vs Temperature



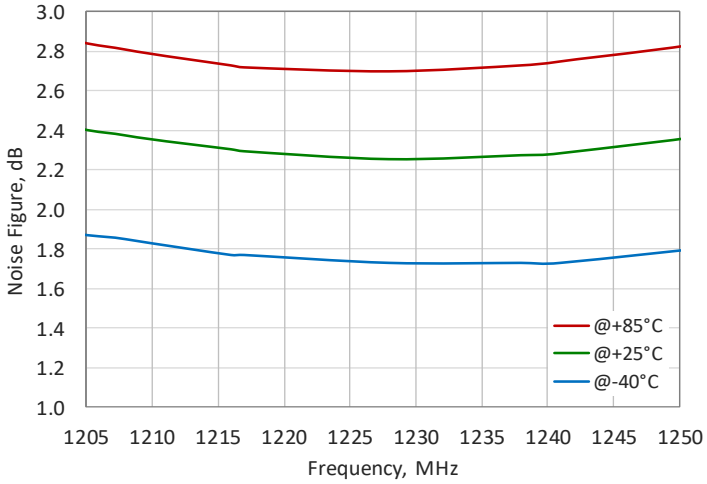
L4000-1230

Passband Gain vs Temperature



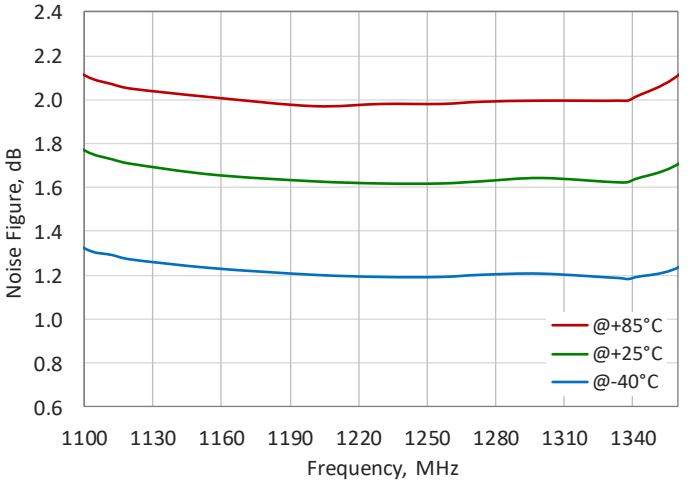
L4000-1227

Passband Noise Figure vs Temperature



L4000-1230

Passband Noise Figure vs Temperature

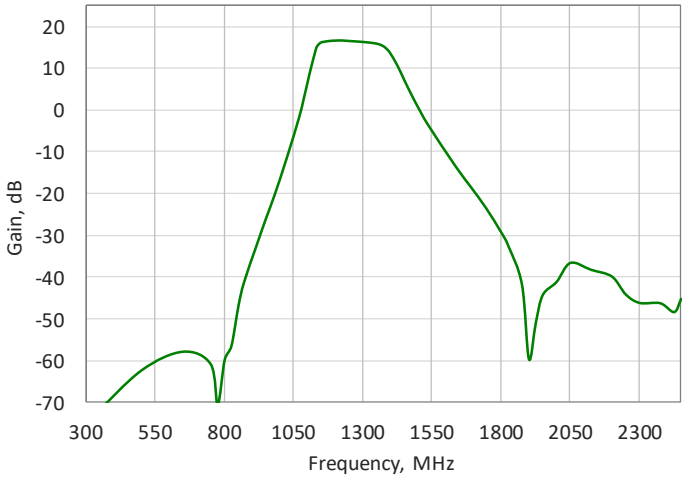


Typical Performance Characteristics

V_{DC}=5V, ← 1180-1320MHz, → 1210-1300MHz

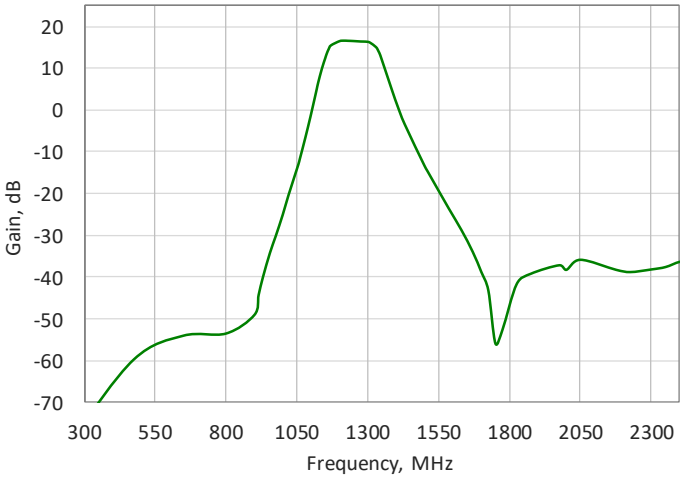
L4000-1250

Gain vs Frequency at 25°C



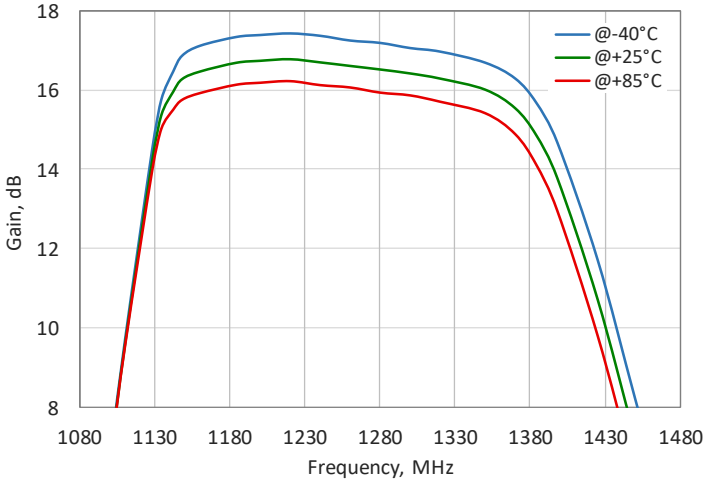
L4000-1255

Gain vs Frequency at 25°C



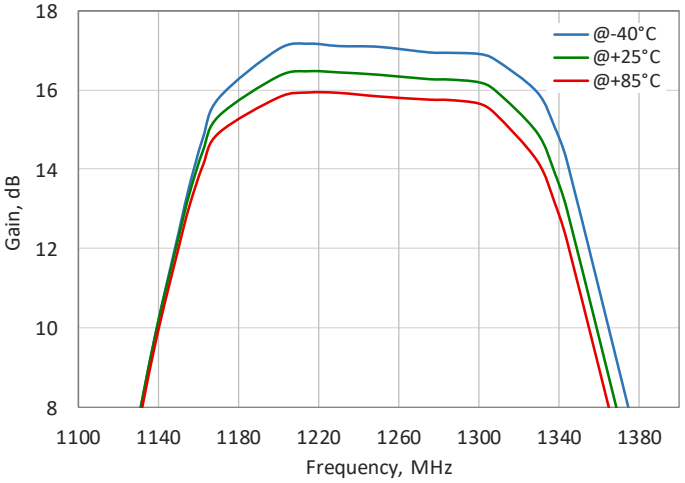
L4000-1250

Passband Gain vs Temperature



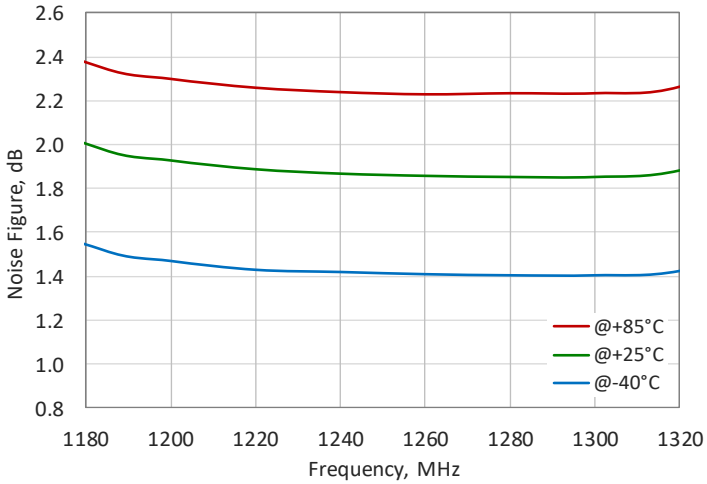
L4000-1255

Passband Gain vs Temperature



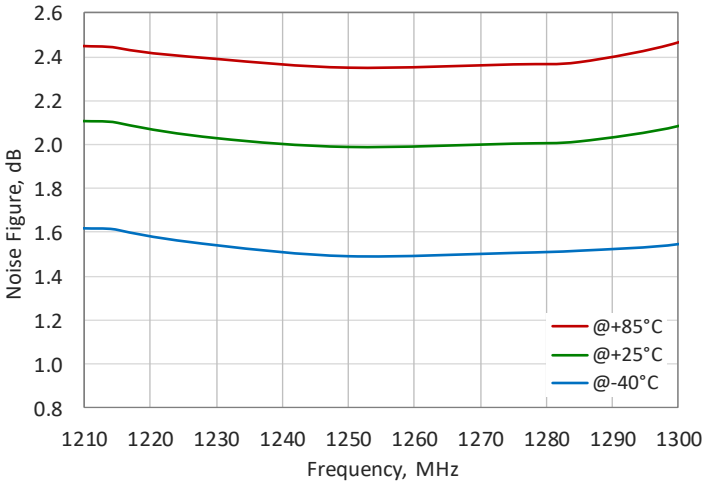
L4000-1250

Passband Noise Figure vs Temperature



L4000-1255

Passband Noise Figure vs Temperature

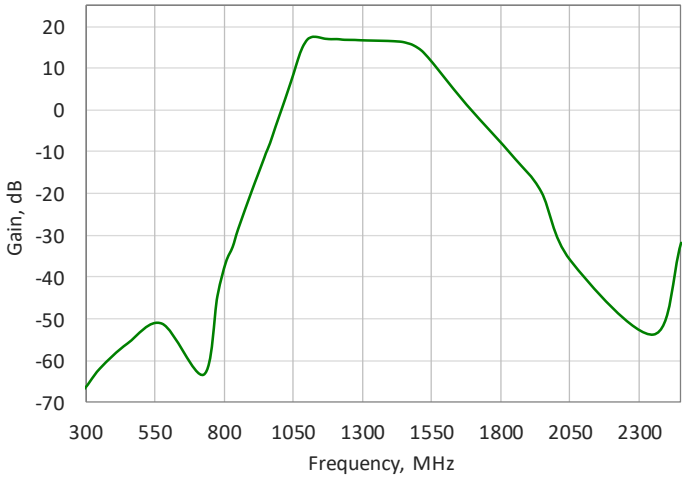


Typical Performance Characteristics

V_{DC}=5V, ← 1140-1440MHz, → 1215-1400MHz

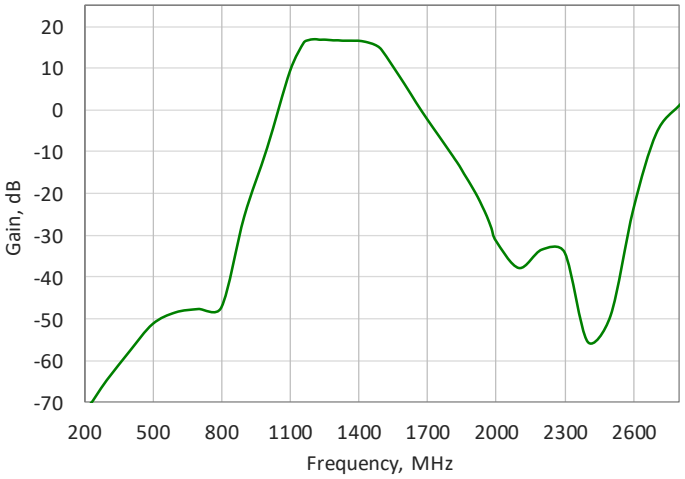
L4000-1290

Gain vs Frequency at 25°C



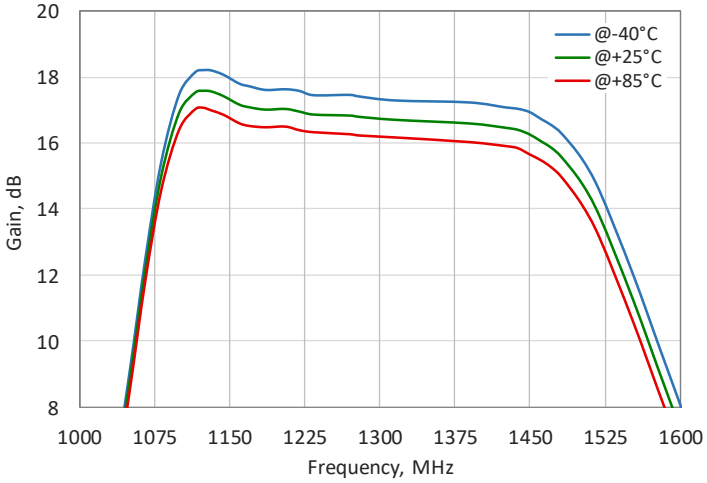
L4000-1307

Gain vs Frequency at 25°C



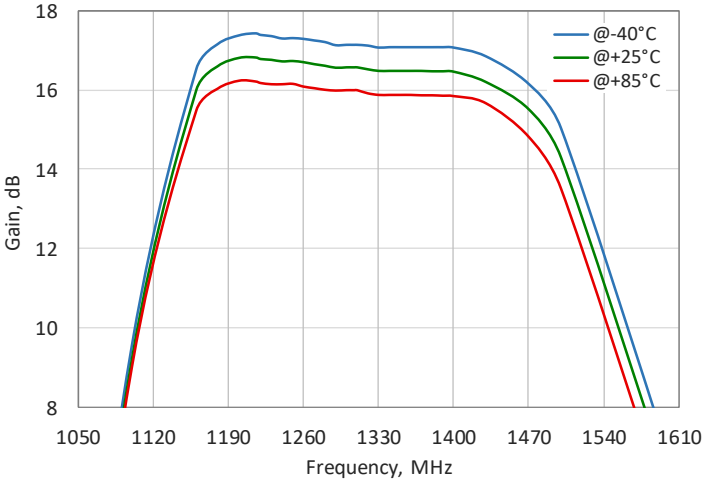
L4000-1290

Passband Gain vs Temperature



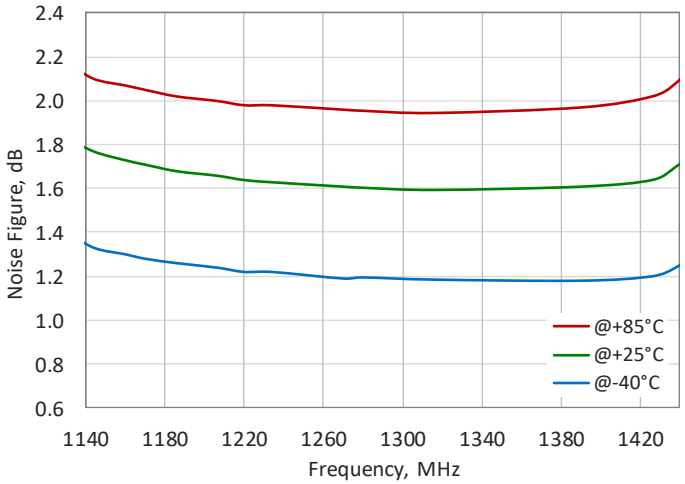
L4000-1307

Passband Gain vs Temperature



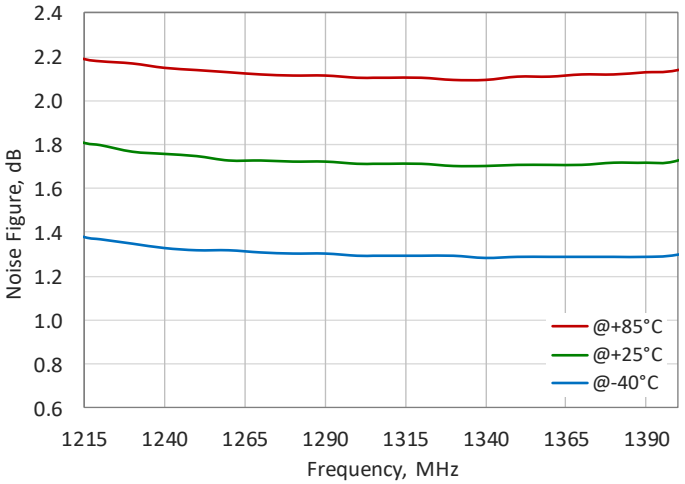
L4000-1290

Passband Noise Figure vs Temperature



L4000-1307

Passband Noise Figure vs Temperature

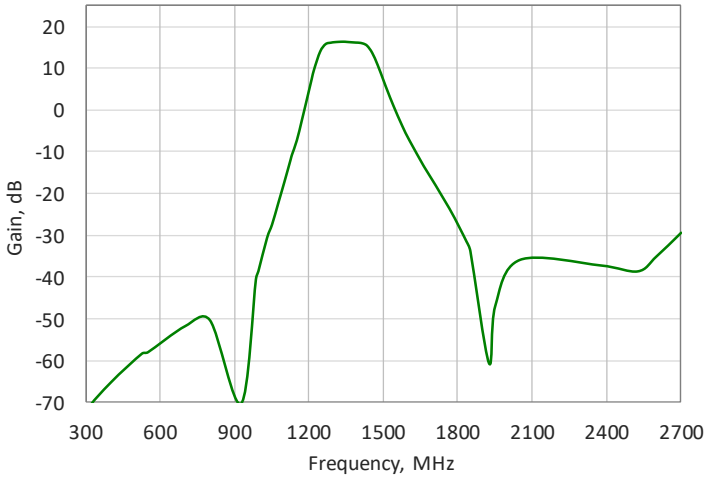


Typical Performance Characteristics

V_{DC}=5V, ← 1300-1400MHz, → 1525-1585MHz

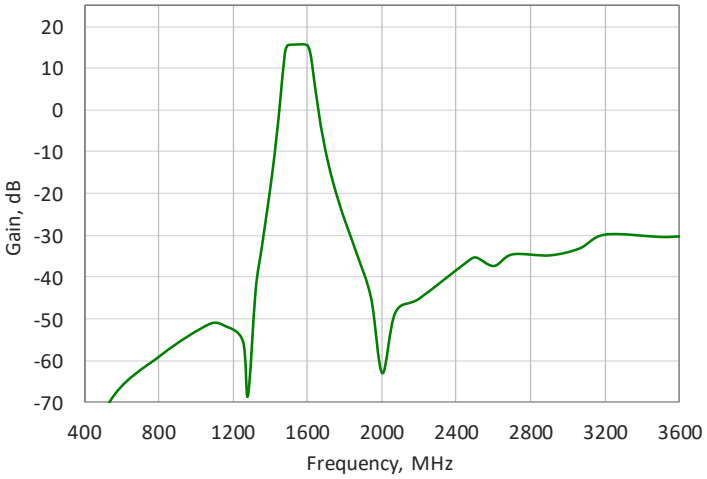
L4000-1350

Gain vs Frequency at 25°C



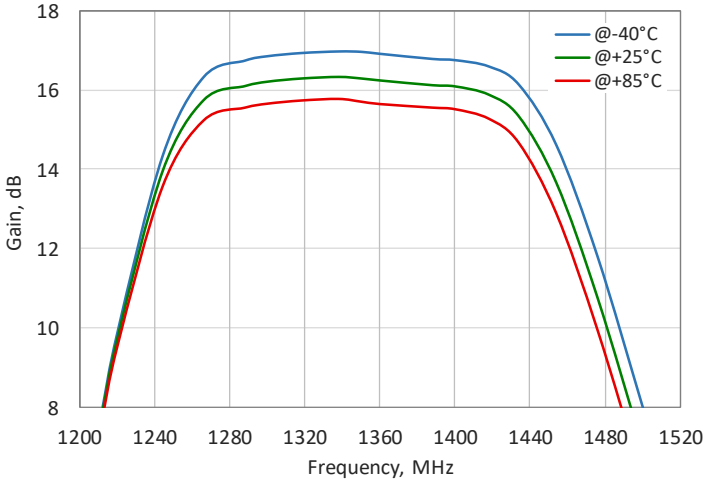
L4000-1555

Gain vs Frequency at 25°C



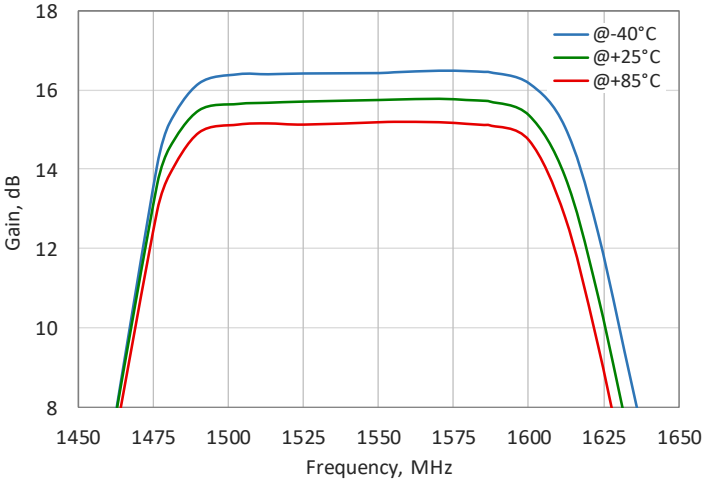
L4000-1350

Passband Gain vs Temperature



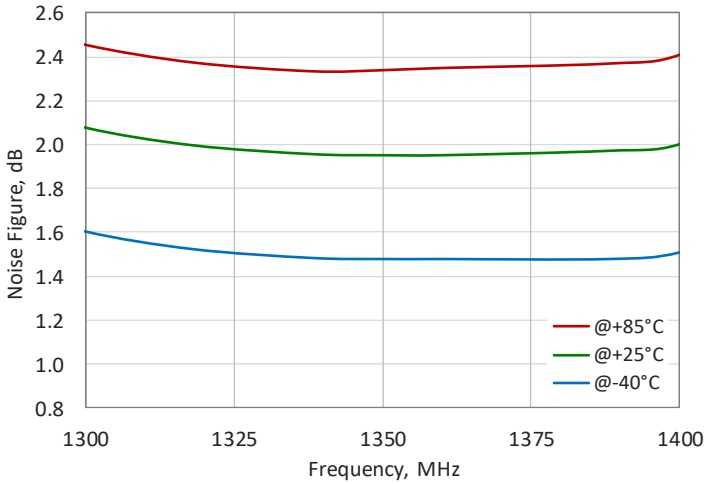
L4000-1555

Passband Gain vs Temperature



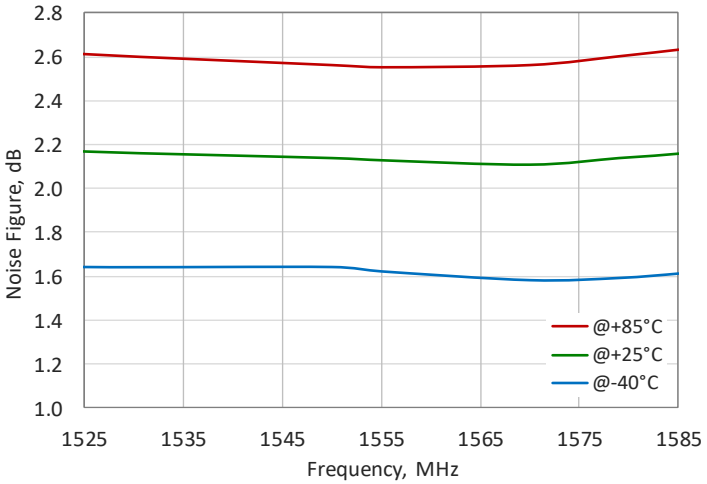
L4000-1350

Passband Noise Figure vs Temperature



L4000-1555

Passband Noise Figure vs Temperature

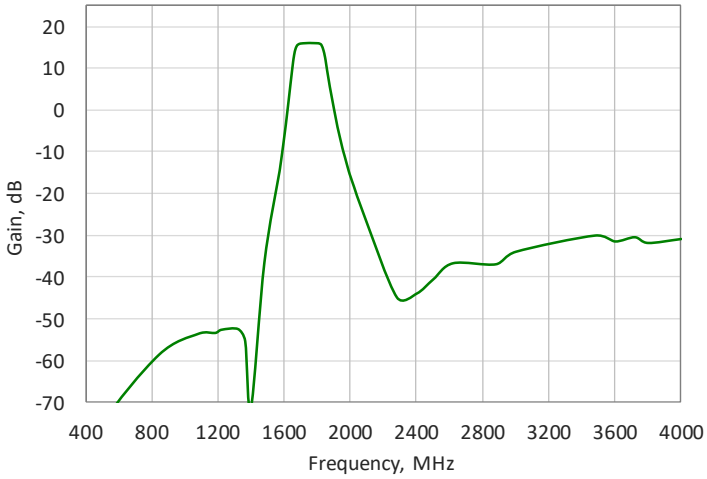


Typical Performance Characteristics

V_{DC}=5V, ← 1710-1800MHz, → 1900-2020MHz

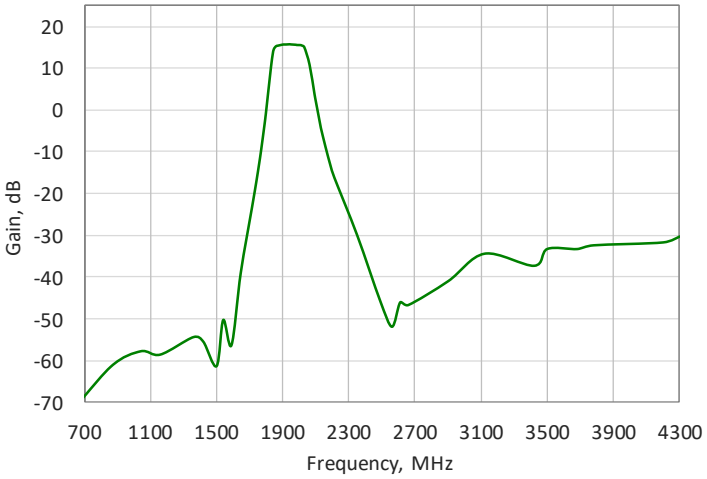
L4000-1755

Gain vs Frequency at 25°C



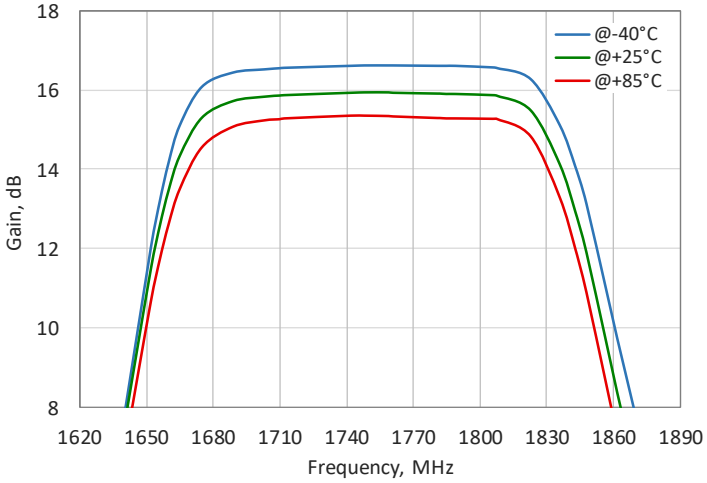
L4000-1950

Gain vs Frequency at 25°C



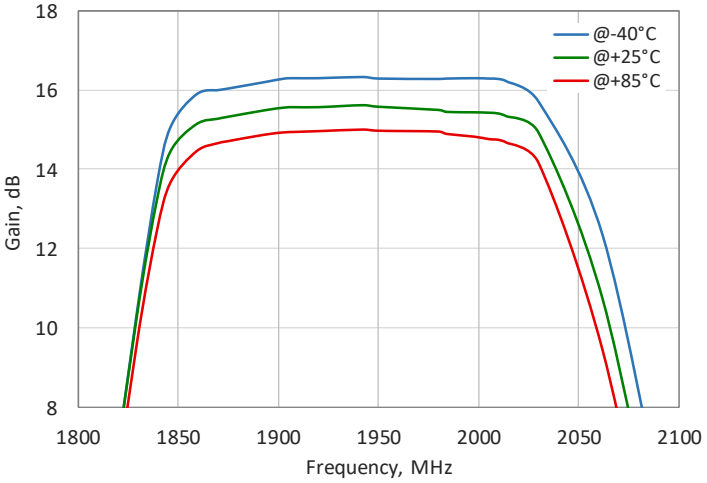
L4000-1755

Passband Gain vs Temperature



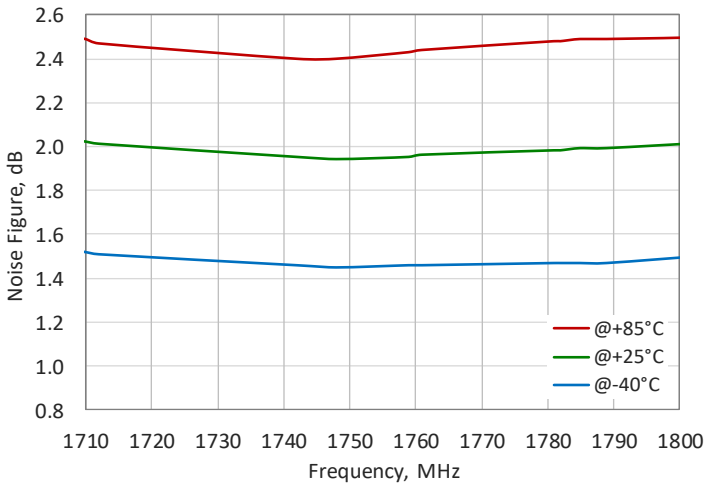
L4000-1950

Passband Gain vs Temperature



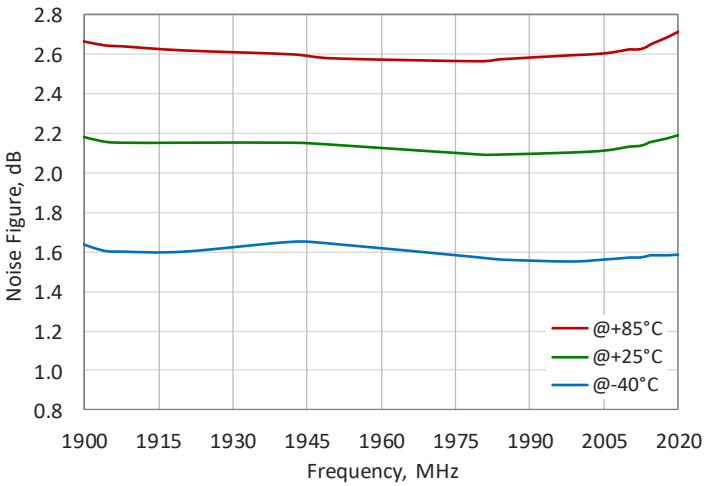
L4000-1755

Passband Noise Figure vs Temperature



L4000-1950

Passband Noise Figure vs Temperature



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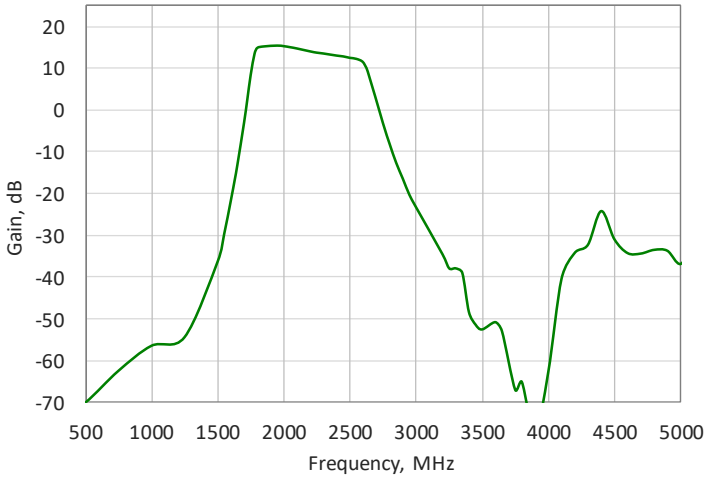
Typical Performance Characteristics

V_{DC}=5V, ← 2000-2450MHz, → 2150-2650MHz

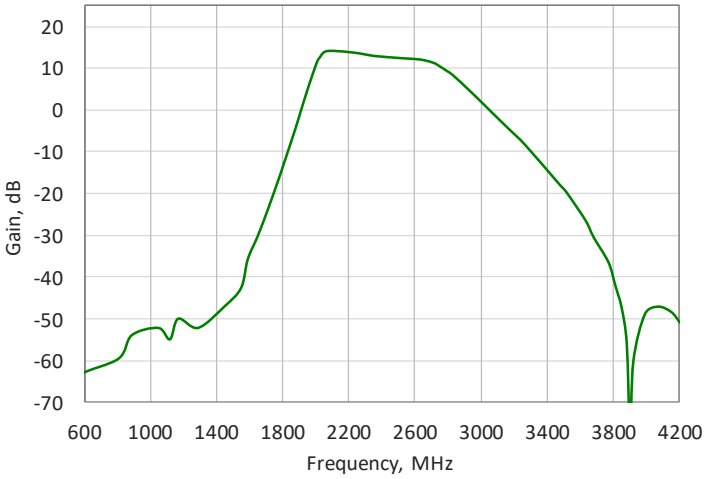
L4000-2225

Gain vs Frequency at 25°C



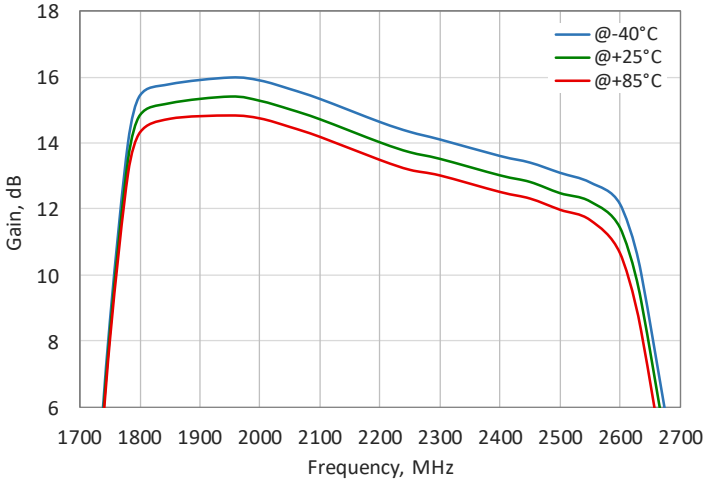
L4000-2400

Gain vs Frequency at 25°C



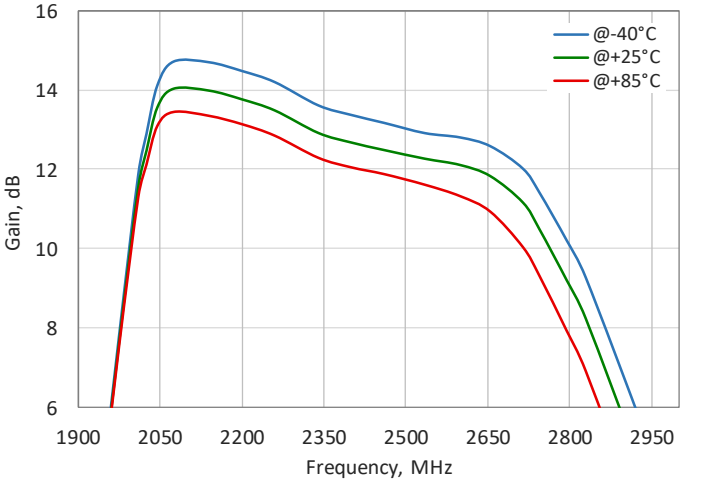
L4000-2225

Passband Gain vs Temperature



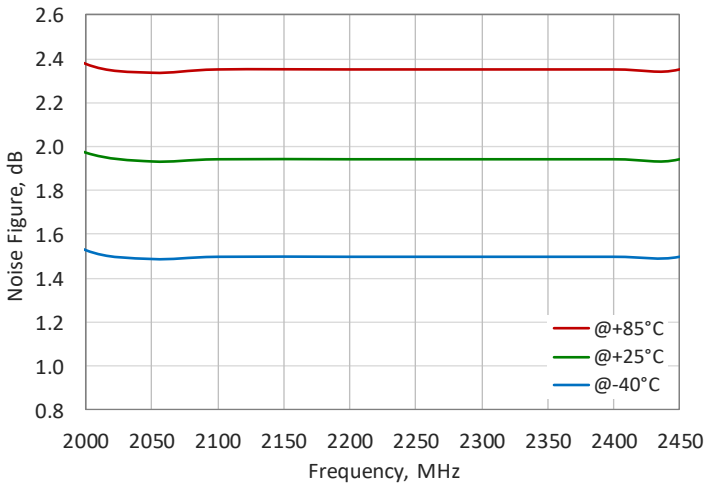
L4000-2400

Passband Gain vs Temperature



L4000-2225

Passband Noise Figure vs Temperature



L4000-2400

Passband Noise Figure vs Temperature