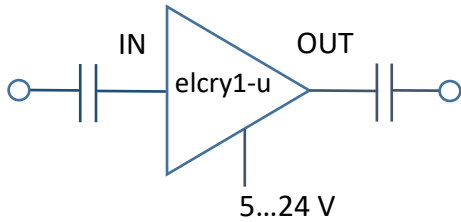


Wideband Ultra Low-Noise Preamplifier

elcry1-u



Features:

- Extremely low noise;
- Frequency from 15 MHz to 130 MHz;
- Designed for Magnetic Resonance applications;
- Protection form high input power pulses;
- Single supply voltage from 5 V to 24 V.

Electrical specifications

(T = +22 °C, Pin = -25 dBm, Reference impedance Z₀ = 50 Ω, unless otherwise noted):

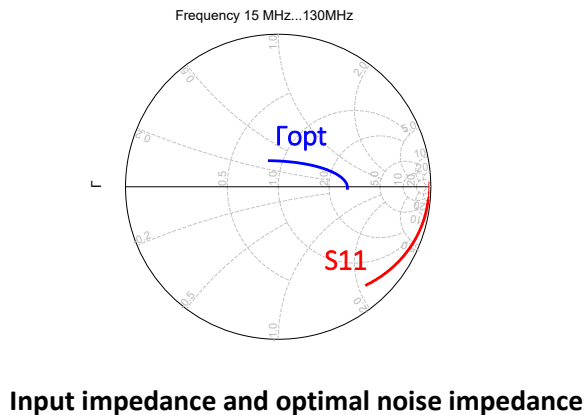
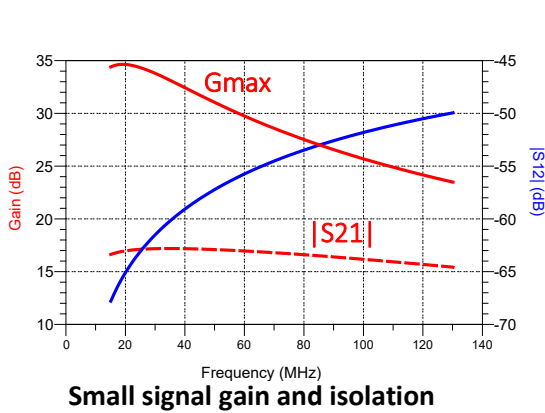
Parameter	Symbol	Test Condition	Min	Typical	Max	Unit
<i>RF specifications</i>						
Noise Figure	NF	@32.1 MHz		0.35		dB
Maximum available gain	G _{max}	15 MHz ... 130 MHz	23			dB
Small signal gain	S ₂₁	15 MHz ... 130 MHz	15			dB
Reverse isolation	S ₁₂				-49	dB
1 dB input compression point	IP1dB	@32.1 MHz		-19		dBm
<i>DC specifications</i>						
Supply voltage	VDD		+5		+24	V
Quiescent supply current	IDQ			18		mA

Absolute maximum ratings

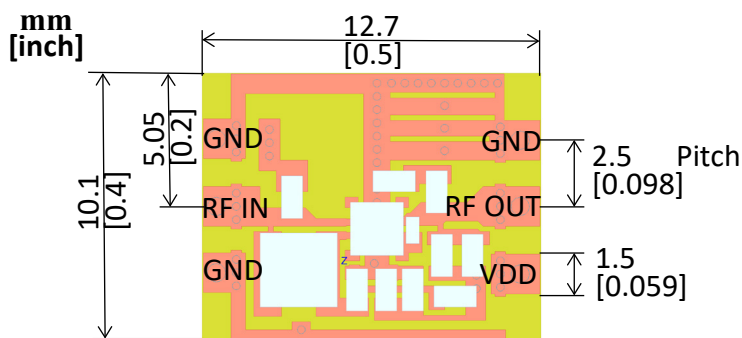
Parameter	Symbol	Minimum	Maximum	Unit
Supply voltage	VDD	-0.1	+24	V
Operating temperature	T	-40	105	°C
Storage temperature		-40	+110	°C

Typical performance characteristics

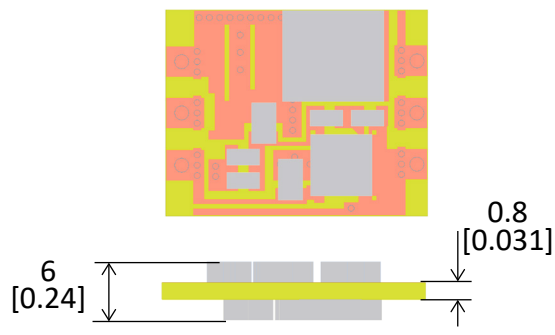
(T = +22 °C, Pin = -25 dBm, Reference impedance Z₀ = 50 Ω, unless otherwise noted):



Dimensions



Pinout (top view) and dimensions ($\pm 0.1\text{mm}$)



Bottom view, front view ($\pm 0.1\text{mm}$)

Application notes

The DC supply voltage range provides adequate headroom for most applications.

DC block capacitors are required at input and output RF ports, as illustrated on the first page. These capacitors can be a part of eventual matching networks or standalone. The values for standalone DC block capacitors depend on operating frequency and would typically be in the range on 10 nF.