

Specific request can be addressed to RAKON info@rakon.fr

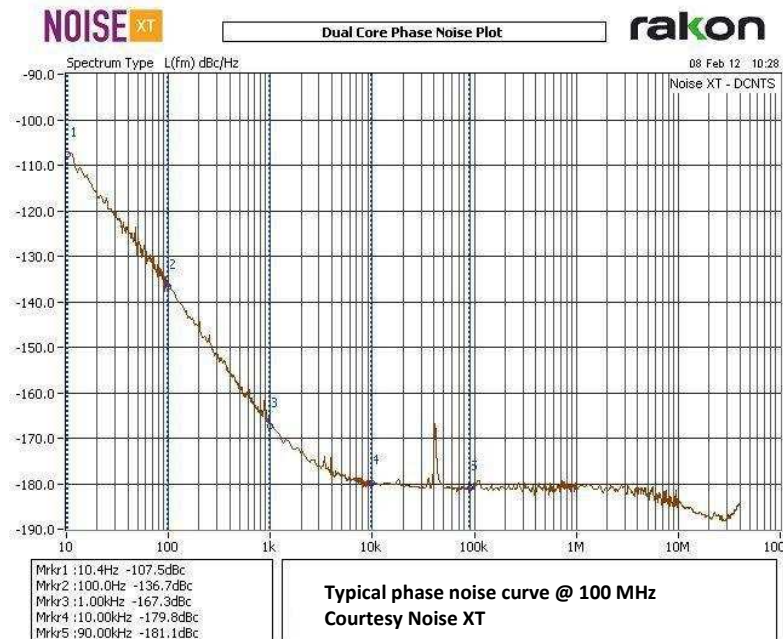
Product Description

This Ultra Low Noise High Frequency Oven Controlled Crystal Oscillator, available in a 51x51x25mm package, is specially designed to meet the request of the most demanding phase noise applications. The ULN B @ 100 MHz can be provided with a guaranteed phase noise level of -165 dBc/Hz @ 1KHz.



Features

- Ultra Low Noise (ULN), Oven Controlled (OCXO), Crystal Oscillator
- Frequency: 80 to 125 MHz
- Guaranteed low phase noise @ 100 MHz:
 - 165 dBc/Hz @ 1kHz
 - 178 dBc/Hz @ 10kHz
- 4 pins machined package + SMA connector for the frequency output
- Frequency Stability vs. Operating Temperature: ± 0.1 ppm
- Ageing: from ± 2 ppm over 10 years
- Supply voltage: +12V or +15V



Applications

- Reference for phase noise measurement
- Test equipments
- Synthesizers

Specifications

1. Environmental conditions

Parameters	Conditions/remarks	Min	Nom	Max	Unit
Operating Temperature	Option A	0	25	70	°C
	Option B	-20	25	70	°C
	Option C	-40	25	85	°C
Switch-on Temperature	TSo	-40		85	°C
Non-Operating Temperature	TNOp	-55		125	°C
Sine Vibration	Level as per MIL-PRF-28800F, Class 3, test equipment				
Shock	Level as per MIL-PRF-28800F, Class 3, test equipment				

2. Electrical interface

Parameters	Conditions/remarks	Min	Nom	Max	Unit
Power supply	Option 1	14.25	15	15.75	V
	Option 2	11.40	12	12.60	V
Load Impedance		45	50	55	Ω
Control voltage		0		10	V
Input impedance		10			$\kappa\Omega$

3. Performances

Parameters	Conditions/Remarks	Min	Typ	Max	Unit
Nominal Frequency		80		125	MHz
Relative pulling frequency range (negative slope)		± 2			ppm
Steady state supply current	Typical @ 25°C	2.7		4	W
Warm up supply current	Frequency achievement 5mn after start up @ 25°C	5.2		9	W
Initial frequency accuracy	@ 25°C ; Vc = Vcnom			± 0.5	ppm
Frequency stability vs temperature	Option A			± 0.1	ppm
	Option B			± 0.2	ppm
	Option C			± 0.5	ppm
Frequency variation vs. supply voltage	Vcc $\pm 5\%$ @25°C			± 0.01	ppm
Frequency variation vs. load	For $\pm 10\%$ variation of load			± 0.02	ppm
Frequency ageing	Aging over 1st year after 30 days operating			± 0.5	ppm
Frequency warm up				5	mn
Output waveform		Sine			
Output level		11	13	15	dBm
Harmonics level				-25	dBc
Spurious level				-90	dBc

4. Minimum Guaranteed Phase Noise level

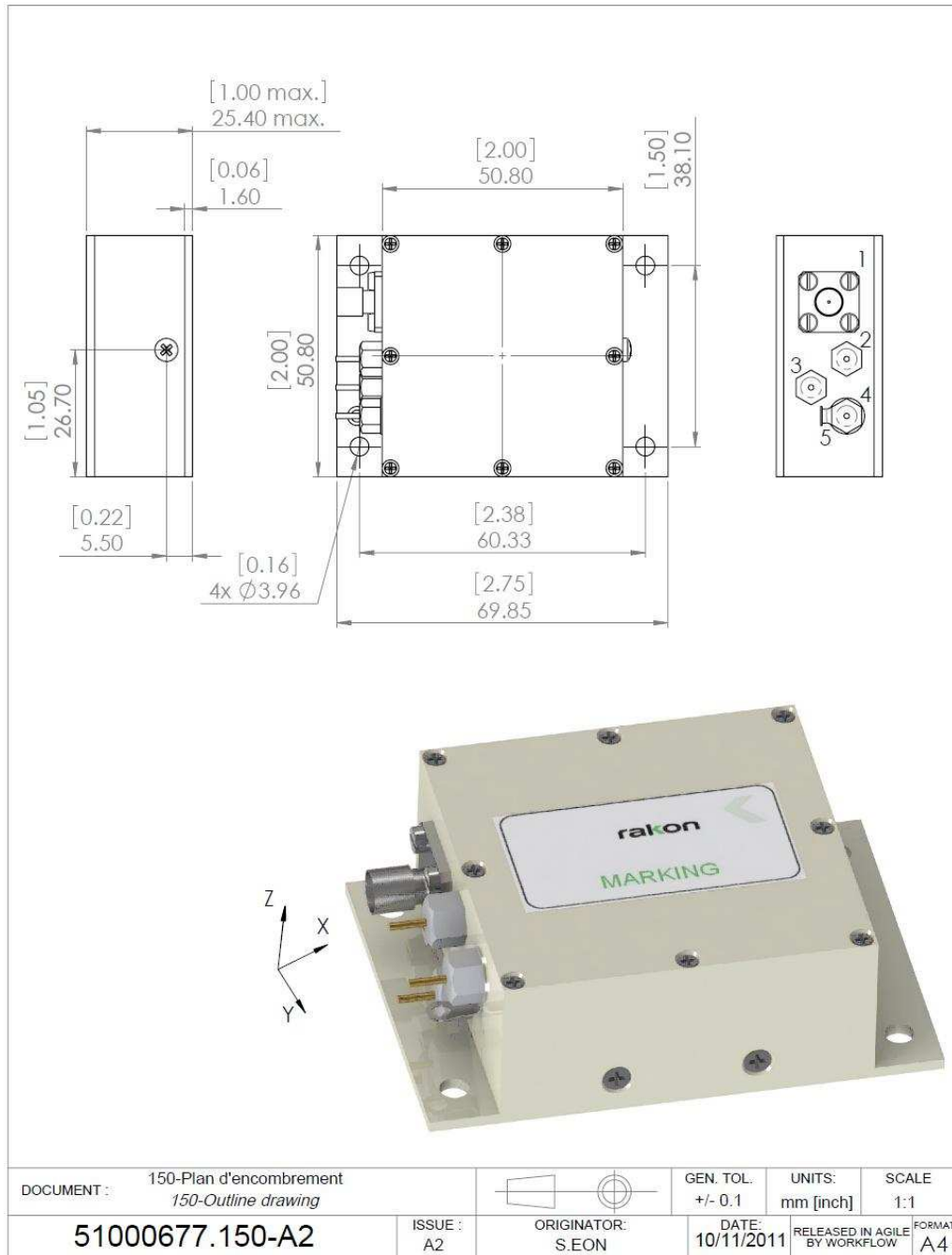
Parameters	Performance level	100 Hz	1 KHz	10 KHz	100 KHz	Unit
@ 100 MHz, 12 V -20°C to +70°C	A	-130	-158	-172	-174	dBc/Hz
	B	-130	-163	-176	-176	dBc/Hz
	C	-130	-165	-178	-178	dBc/Hz

For performance levels at other frequencies or temperature ranges, please consult your sales office.

5. Mechanical features

5.1. Package outline

Weight 100 grams



5.2. Pin description

Pin number	Name	Function
1	Fout	Frequency output
2	Vc	Voltage control for electrical tuning
3	Vref	Reference voltage
4	Vcc	Supply voltage
5	GND	Electrical & Mechanical ground

6. Ordering part number definition

The part number breakdown is defined as follows:

