



SRB 660

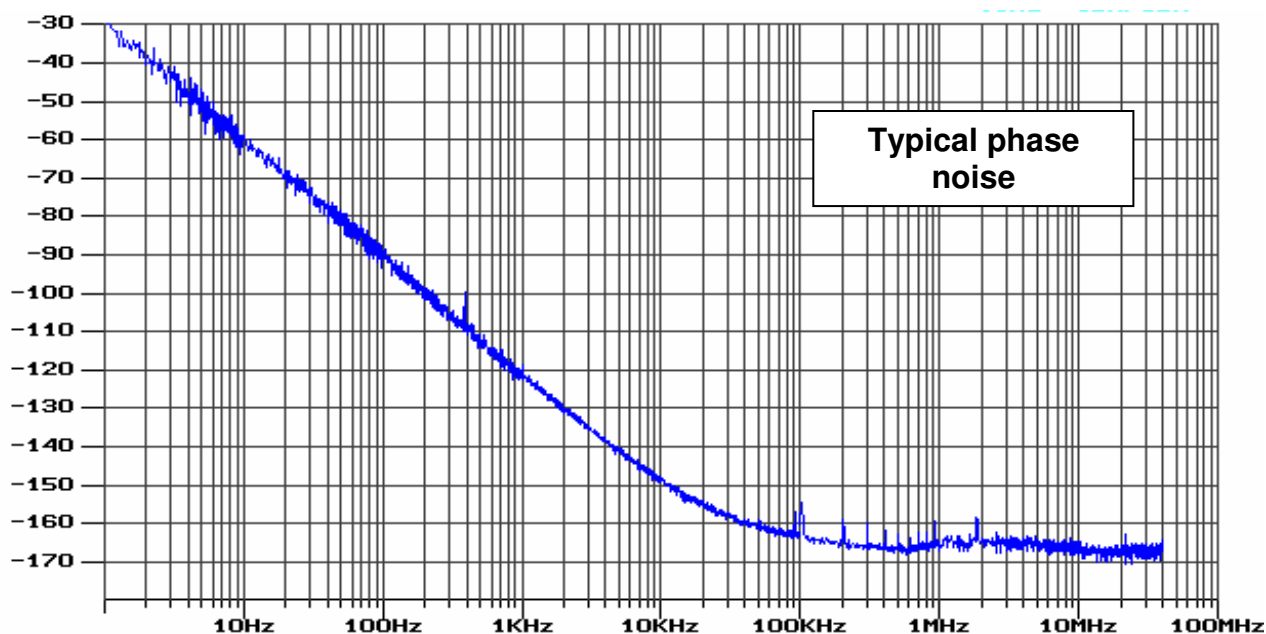
Ultra Low Noise Voltage Controlled 1200 MHz SAW Oscillator
Tentative specification

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Ultra Low Noise Voltage Controlled 1200 MHz SAW Oscillator

March, 2008

- ❑ **Ultra Low Noise (ULN), Oven Controlled, Voltage Controlled, SAW Oscillator (OCVCSO)**
- ❑ **Output frequency: 1200 MHz**
- ❑ **Ultra low phase noise: - 150 dBc/Hz @ 10 kHz offset (typical)
< - 165 dBc/Hz noise floor (typical)**
- ❑ **Frequency fine tuning by temperature control of the oven**
- ❑ **Operating temperature range : [- 20 to + 50°C]**
- ❑ **Environment: shelters, stabilized platforms**
- ❑ **Applications:**
 - **Instrumentation: phase noise analyzer, synthesizer**
 - **Ground based or naval military equipment & test bench**
 - **Radar & Telecom simulator**
- ❑ **Rugged packaging: 95 x 76 x 23 mm [3.75 x 3 x .92 “]**
- ❑ **SMA connector for the frequency output + 2 feedthrus for DC supply and $V_{Control}$**



Parameters	Unit	Minimum	Typical	Maximum
Operating temperature range	°C	- 20		+ 50
Storage temperature range	°C	- 40		+ 85

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Mechanical characteristics

Package:

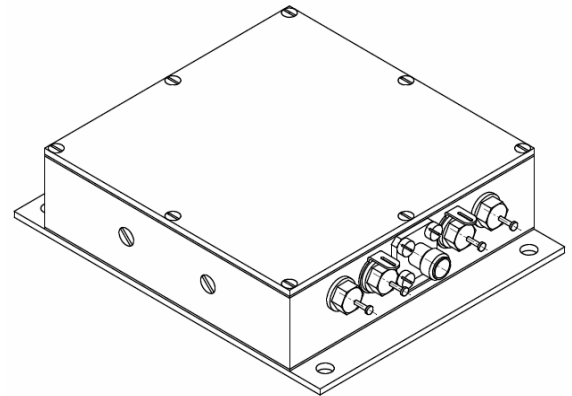
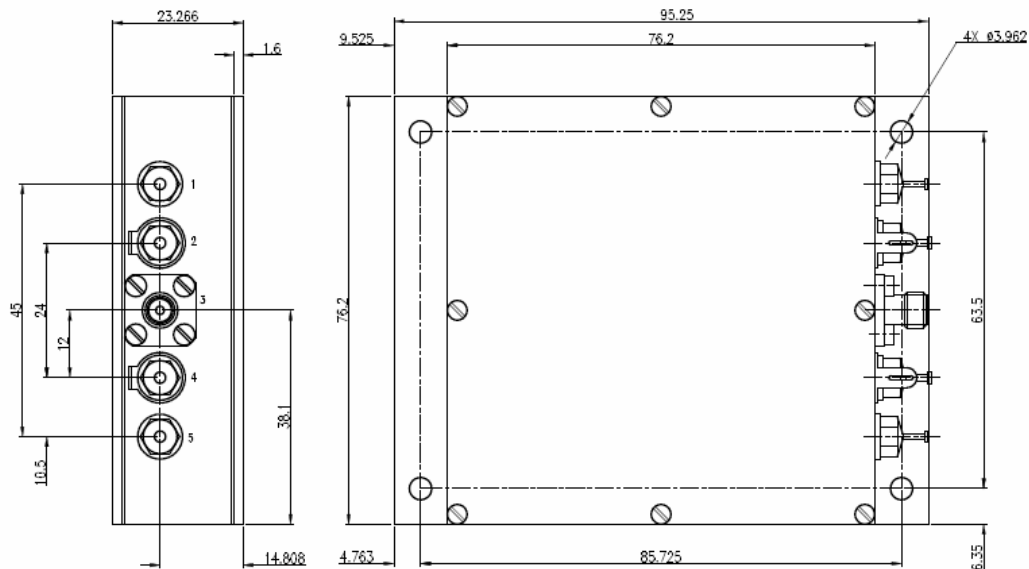
- Machined, shielded enclosure
- SMA connector & feedthru solder pins

Foot-print:

- 96 x 77 mm max.
- [3.75 x 3 inch]

Height:

- 23.3 mm max.
- [0.916 inch]



Pin description

Pin number	Type	Label	Function
1	Feedthru	NA	NC
2	Feedthru + Ground	DC Supply voltage	Oscillator & oven power supply
3	Female SMA	Frequency output	Frequency output
4	Feedthru + Ground	Voltage control	Voltage control for electrical tuning
5	Feedthru	NA	NC

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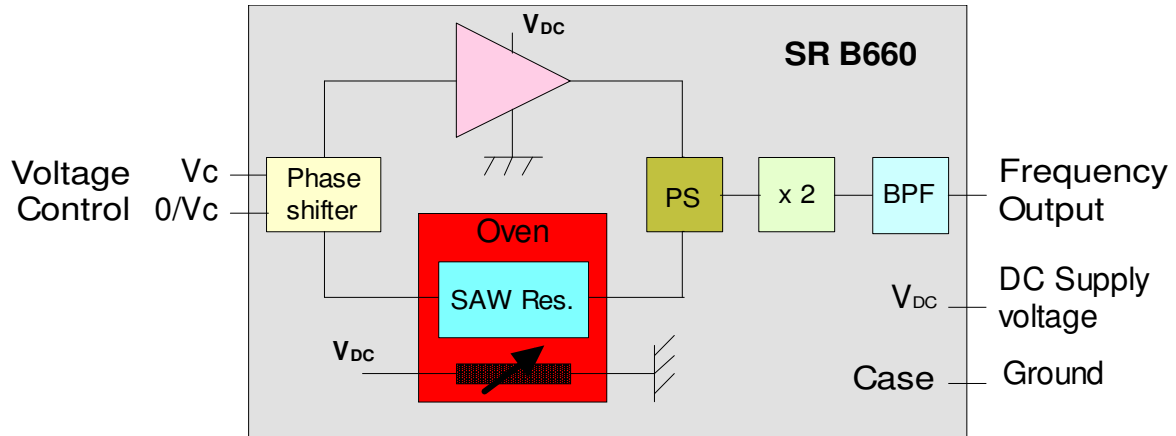
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Technical Characteristics

Block diagram



Electrical specifications

Electrical Parameters	Unit	Minimum	Typical	Maximum
Frequency output (SMA Connector)				
Nominal frequency	MHz		1200	
Output level (50 Ω load)	dBm	-1	0	1
Harmonics suppression	dBc	-25	-30	-40
Phase noise @ 1 kHz offset	dBc/Hz		-120	-118
Phase noise @ 10 kHz offset	dBc/Hz		-150	-148
Phase noise @ 100 kHz offset	dBc/Hz	< -165	-163	-160
Phase noise floor	dBc/Hz	< -165	< -165	-165
VSWR	-		2:1	2.5:1
Free running mode (Voltage Control pin NC)				
Factory set accuracy @ 25 $^{\circ}$ C	ppm		± 0.2	± 0.5
Temperature stability	ppm			± 2
Aging per year	ppm			± 1
Electrical tuning (Voltage Control pin)				
Relative tuning range	ppm			± 4
Voltage range	V _{DC}	3		7
Slope @ V control = 4.7 V	Hz / V	2000	3000	4400
DC supply voltage (DC supply voltage pin)				
Voltage range	V _{DC}	11.8	12	12.2
Supply current	mA		250 @ 25 $^{\circ}$ C	600
Warm up time	mn		4	5