

SHORT FORM CATALOGUE

GPS Receiver / Frequency Distribution

Reliable and affordable GPS receivers for mobile networks, E911 location services, edge/access/office/CPE synchronisation in NGNs, DVB-T synchronisation.

Main applications:

- Mobile network synchronisation, 2G to 3G, WiMax
- Lab reference source
- Satellite ground stations equipment .
- Synchronisation of DAB and DVB equipment
- Any Systems requesting :
 - Low Phase Noise, Accurate Time & Frequency
- Any Systems requesting Low Phase Noise
- Edge and access synchronisation in NGNs

Features:

- OCXO 8663 $<\pm 1e-10/day$
- OCXO BVA 860x $<\pm 2e-11/day$
- 8 x (E1 or 2.048 MHz or 10 MHz or PPS) outputs, selectable by switches.
- RS-232 time output
- Local management
- Several choice of power supply

Highlights:

- Reliable, low cost and compact GPS receiver.
- Simultaneous tracking of up to 8 satellites.
- Low Phase Noise output signal at 10MHz
- The ideal short term and long term Frequency reference.
- High stability in holdover

Examples of customisations:

- Very low Phase Jump during channel switch over in redundant configuration
- Additional outputs
- Re-timing channels
- NTP or IRIG-B time-code output

4520 GPS-SP receiver is a stand-alone GPS receiver module specially designed to supply precise timing as specified by the international Telecommunication Union in recommendation G.811 and G.812. The unit consists of a GPS-receiver circuit, a high performance OCXO oscillator and an input interface for standard synchronisation signals together with a variable voltage power supply.

4530 GPS Low Phase Noise

Oscilloquartz has built the engine of its highly successful OSA 5581C GPS-SR into a single casing format complete with an integrated power supply (12v, 24V or 48V), so as to provide a flexible Time and Frequency solution to customers requesting low noise performance.

458x OEM GPS receiver offers numerous variants to be used in a single channel / dual channel redundant configuration. The product family is highly versatile and adapts to **customer integration requirements:** dimension of the board, number/type/frequency of output signals, custom back-plane connectors and front panel, custom management protocol.

5230 BVA GPS receiver is specifically designed for the synchronisation of 2G, 2.5G and 3G mobile telecommunications networks, NGN access network (LAN, MAN), as well as SDH/SONET and ATM transport networks. The BVA version (Low Phase Noise) is dedicated to application where Short term stability and Low Phase noise is a must.

5020 Low Noise Distribution is specifically designed for applications where the phase noise characteristic is extremely important such as satellites tracking stations or time and frequency laboratories.

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 **OSCILLOQUARTZ**
SWITZERLAND - FRANCE - ITALY - PORTUGAL - SPAIN

SHORT FORM CATALOGUE

Quartz Crystal Oscillators OXO

OSCILLOQUARTZ SA

Since its creation in 1949, Oscilloquartz (OSA) is a pioneer in the Time and Frequency field. In its Oscillators and Telecommunications divisions, OSA designs, manufactures and installs the most precise frequency sources and synchronisation systems. It supplies Telecommunication integrators, public and private network operators in more than 90 countries.

Oscilloquartz's success relies on the unrivalled performance and reliability of its quartz oscillators (notably the ultra stable BVA resonator, flagship of the company, or the SC-Cut Oven Controlled Crystal Oscillators OXO) and its Network Synchronisation solutions (SyncWorld). The products and systems, involving a combination of various technologies and know-how, integrate all standards (ITU-T, ETSI, ANSI), norms (GSM, UMTS, or CDMA) and references (PRC, Cesium and GPS).

Oscilloquartz's strength also lies in the quality of its services to ensure the network reliability, for a total customer satisfaction. As a truly global supplier, OSA ensures a worldwide presence through regional sales offices, agents or distributors.

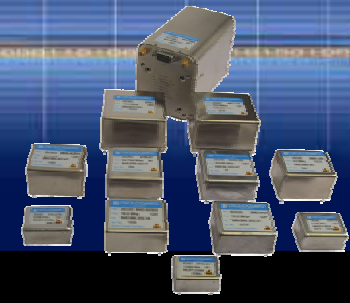
ISO-9001 and ISO-14001 certifications demonstrate OSA commitments to quality and environmental aspects, as well as certification from the Swiss Federal Office of Metrology as an Accredited Calibration Centre for Time and Frequency.

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SWITZERLAND - FRANCE - ITALY - PORTUGAL - SPAIN



Single Oven

Short Form Catalogue

Oven Controlled Crystal Oscillator




Technical Specifications	DIL 12V		DIL 5V		DIL NEW 3.3V	
						
Model	8620 / 8625		8621 / 8626		8622 / 8627	
Frequency range	1 to *40 MHz		1 to *40 MHz		1 to 20 MHz	
Temperature range	A: 0° to +60°C B: -20° to +70°C C: -40° to +85°C		A: 0° to +60°C B: -20° to +70°C C: -40° to +85°C		A: 0° to +60°C B: -20° to +70°C C: -40° to +85°C	
Stability vs Temperature Peak to Peak	8620 A:< 0.4ppm B:< 0.6ppm C:< 1.0ppm	8625 A:< 0.1ppm B:< 0.2ppm C:< 0.4ppm	8621 A:< 0.4ppm B:< 0.6ppm C:< 1.0ppm	8626 A:< 0.2ppm B:< 0.3ppm C:< 0.4ppm	8622 A:< 0.4ppm B:< 0.6ppm C:< 1.0ppm	8627 A:< 0.2ppm B:< 0.3ppm C:< 0.5ppm
OPTION Stability vs Temperature	On request		On request		On request	
Long term stability Slope > 0 or < 0	1st Year :<±0.7ppm 10 Years :<±4.0ppm		1st Year :<±0.7ppm 10 Years :<±4.0ppm		1st Year :<±0.7ppm 10 Years :<±4.0ppm	
Warm-up Δf/f:	Within spec after 30s @0°C		Within spec after 30s @0°C		Within spec after 60s @0°C	
Short term stability	σ(τ) < 5x10 ⁻¹⁰ (τ=0.1s to 30s) Typical 5x10 ⁻¹¹ @ 1s		σ(τ) < 5x10 ⁻¹⁰ (τ=0.1s to 30s) Typical 5x10 ⁻¹¹ @ 1s		σ(τ) < 5x10 ⁻¹⁰ (τ=0.1s to 30s) Typical 5x10 ⁻¹¹ @ 1s	
Frequency control	R1: > ± 4 ppm (ext pot) V5: > ± 4 ppm (0 to +5V)		R1: > ± 4 ppm (ext pot) V5: > ± 4 ppm (0.5 to +5V)		R1: > ± 4 ppm (ext pot) V3: > ± 4 ppm (0 to +3.3V)	
Output specification	H : HC MOS compatible S : Sine >1Vpp / 1 KΩ *S:max frequency 20MHz		H : HC MOS compatible S : Sine >1Vpp / 1 KΩ *S:max frequency 20MHz		H : HC MOS compatible	
Phase noise L (f) BW=1Hz	H	S	H	S	H	S
1 Hz	-60 dBc	- 70 dBc	-70 dBc	- 80 dBc	-80 dBc	on request
10 Hz	-90 dBc	-100 dBc	-100 dBc	-110 dBc	-110 dBc	on request
100 Hz	-120 dBc	-130 dBc	-130 dBc	-135 dBc	-135 dBc	on request
1'000 Hz	-130 dBc	-140 dBc	-140 dBc	-145 dBc	-145 dBc	on request
10'000 Hz	-130 dBc	-140 dBc	-140 dBc	-145 dBc	-145 dBc	on request
typical value @ 10MHz in static conditions						
Power supply	+12 V ± 0.5V		+5V ± 0.2V		+3.3V ± 0.15V	
Input voltage (DC)	+12 V ± 0.5V		+5V ± 0.2V		+3.3V ± 0.15V	
Input current	250mA during 10s After warm-up <25mA @ +30°C		250mA during 10s <70mA @ +30°C		250mA during 30s <100mA @ +30°C	
Size (L x W x H)	20.3 x 13.2 x 8.0 mm 0.8" x 0.52" x 0.31"		20.3 x 13.2 x 8.0 mm 0.8" x 0.52" x 0.31"		20.3 x 13.2 x 8.0 mm 0.8" x 0.52" x 0.31"	

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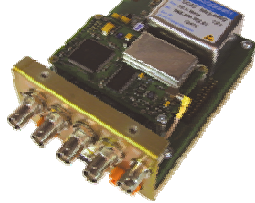

GPS

Short Form Catalogue




GPS Receiver / Frequency Distribution

Technical Specifications	Compact, Cost efficient, high quality GPS-based synchronisation solution for OEM & integrators		Compact, Cost efficient, high quality GPS-based synchronisation solution for OEM & integrators	Compact, Cost efficient, high quality solution for OEM & integrators																																				
																																								
Model	5230 GPS Receiver Option: BVA 10MHz		5230 GPS Receiver Option: BVA 5MHz	5020 Freq. Distribution																																				
Performance when locked to GPS-signal	<ul style="list-style-type: none"> > 1 pps accuracy : < 50ns peak-to-peak > ADEV : < 1x10⁻¹² (10'000s) <i>At constant temperature :</i>		<ul style="list-style-type: none"> > 1 pps accuracy : < 100ns peak-to-peak > ADEV : < 1x10⁻¹² (10'000s) 	<ul style="list-style-type: none"> > 1 x 1Vrms // 50Ω 																																				
Outputs (BNC)	<ul style="list-style-type: none"> > 8x10 MHz, 1Vrms // 50Ω > 1x10 MHz, 7dBm ±1// 50Ω Harmonics: -40 dB Spurious : -70 dB 		<ul style="list-style-type: none"> > 8x5 MHz, 1Vrms // 50Ω > 1x5 MHz, 7dBm ±1// 50Ω Harmonics: -40 dB Spurious : -70 dB 	<ul style="list-style-type: none"> > 12 x 1Vrms // 50Ω > Harmonics: -40 dB > Spurious : -80 dB > Isolation : -90 dB 																																				
Phase noise L (f) BW=1Hz (Low Noise Output)		<table border="1"> <tr> <th></th> <th>Std</th> <th>Opt</th> </tr> <tr> <td>1 Hz</td> <td>-100 dBc</td> <td>-115 dBc</td> </tr> <tr> <td>10 Hz</td> <td>-125 dBc</td> <td>-135 dBc</td> </tr> <tr> <td>100 Hz</td> <td>-135 dBc</td> <td>-140 dBc</td> </tr> <tr> <td>1'000 Hz</td> <td>-145 dBc</td> <td>-145 dBc</td> </tr> <tr> <td>10'000 Hz</td> <td>-145 dBc</td> <td>-145 dBc</td> </tr> </table>		Std	Opt	1 Hz	-100 dBc	-115 dBc	10 Hz	-125 dBc	-135 dBc	100 Hz	-135 dBc	-140 dBc	1'000 Hz	-145 dBc	-145 dBc	10'000 Hz	-145 dBc	-145 dBc	<table border="1"> <tr> <th></th> <th>Std</th> <th>Opt</th> </tr> <tr> <td>1 Hz</td> <td>-115 dBc</td> <td>-125 dBc</td> </tr> <tr> <td>10 Hz</td> <td>-135 dBc</td> <td>-145 dBc</td> </tr> <tr> <td>100 Hz</td> <td>-145 dBc</td> <td>-150 dBc</td> </tr> <tr> <td>1'000 Hz</td> <td>-150 dBc</td> <td>-155 dBc</td> </tr> <tr> <td>10'000 Hz</td> <td>-150 dBc</td> <td>-155 dBc</td> </tr> </table>		Std	Opt	1 Hz	-115 dBc	-125 dBc	10 Hz	-135 dBc	-145 dBc	100 Hz	-145 dBc	-150 dBc	1'000 Hz	-150 dBc	-155 dBc	10'000 Hz	-150 dBc	-155 dBc	500 KHz to 50 MHz 1 Hz : -120 dBc 10 Hz : -135 dBc 100 Hz : -145 dBc 1'000 Hz : -155 dBc 10'000 Hz : -160 dBc
	Std	Opt																																						
1 Hz	-100 dBc	-115 dBc																																						
10 Hz	-125 dBc	-135 dBc																																						
100 Hz	-135 dBc	-140 dBc																																						
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100 Hz	-145 dBc	-150 dBc																																						
1'000 Hz	-150 dBc	-155 dBc																																						
10'000 Hz	-150 dBc	-155 dBc																																						
Management interface	<ul style="list-style-type: none"> > RS-232C connector > 1xRelay contact > TOD (Time-Of-Day) NMEA0183, on RS-232C 		<ul style="list-style-type: none"> > RS-232C connector > 1xRelay contact > TOD (Time-Of-Day) NMEA0183, on RS-232C 	<ul style="list-style-type: none"> > Monitoring : Alarm contact on Sub-D 9p connector 																																				
Power Supply	<ul style="list-style-type: none"> > 18-60 VDC > Consumption: <11W during warm up <7W steady state @ 25°C 		<ul style="list-style-type: none"> > 18-60 VDC > Consumption: <11W during warm up <7W steady state @ 25°C 	<ul style="list-style-type: none"> > 100 to 240 VAC (46-63Hz) > Consumption: 10W 																																				
Hold-Over performances	<ul style="list-style-type: none"> Long term stability < ± 2 x 10⁻¹¹ /day < ± 4 x 10⁻⁹ /year 		<ul style="list-style-type: none"> Long term stability < ± 2 x 10⁻¹¹ /day < ± 4 x 10⁻⁹ /year 	<ul style="list-style-type: none"> NA 																																				
Frequency stability	< 2x10 ⁻¹⁰ pp (-5°C to +55°C)		< 2x10 ⁻¹⁰ pp (-5°C to +55°C)	NA																																				
Typical applications	<ul style="list-style-type: none"> > Lab reference source > Satellite ground stations Equipment > Any Systems requesting Low Phase Noise > Accurate Time & Frequency > DAB & DVB broad casting systems 		<ul style="list-style-type: none"> > Lab reference source > Satellite ground stations Equipment > Any Systems requesting Low Phase Noise > Accurate Time & Frequency > DAB & DVB broad casting systems 	<ul style="list-style-type: none"> > Time and frequency distribution unit > Satellite ground stations Equipment > Any Systems requesting Low Phase Noise 																																				
Size (HxWxD)	Sub-rack 19", 2U		Sub-rack 19", 2U	Sub-rack 19", 1U																																				
HIGHLIGHTS :	<ul style="list-style-type: none"> > The ideal Short term and Long term Frequency Reference. > High stability in holdover 		<ul style="list-style-type: none"> > The ideal Short term and Long term Frequency Reference. > High stability in holdover 	<ul style="list-style-type: none"> > The ideal Low Noise distribution unit. 																																				




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Technical Specifications	Synchronisation pack G.812 type I, V, VI Compliant.	Compact GPS & GPS-less Synchronisation Receivers and Re-Timers	OSA OEM GPS NGN
			
Model	4520 GPS-SP	4530-Low Phase Noise	458x OEM GPS
Performance when locked to GPS-signal <i>At constant temperature :</i>	<ul style="list-style-type: none"> ➤ 1 pps accuracy : < 100ns peak-to-peak ➤ ADEV : <1x10⁻¹² (10'000s) 	<ul style="list-style-type: none"> ➤ 1 pps accuracy : < 100ns peak-to-peak ➤ ADEV : <1x10⁻¹² (10'000s) 	<ul style="list-style-type: none"> ➤ 1 pps accuracy : < 100ns peak-to-peak ➤ ADEV : <1x10⁻¹² (10'000s)
Outputs (BNC)	<ul style="list-style-type: none"> ➤ 1x 10 MHz, 1Vrms//50Ω ➤ 1x 1 PPS ➤ 1x 2.048 Mb/s ➤ 1x 2.048 MHz 	<ul style="list-style-type: none"> ➤ 1 x 10 MHz, 1Vrms // 50Ω ➤ 1 x 1 PPS, 2.5Vpp // 50Ω 	<ul style="list-style-type: none"> ➤ 1 x 10 MHz, 5dBm // 50Ω aligned on PP2S ➤ 1 x PP2S ➤ Various possibilities
OPTION Low Phase noise L (f) BW=1Hz (10MHz output)	Contact Factory	<p>1 Hz : -100 dBc 10 Hz : -130 dBc 100 Hz : -145 dBc 1'000 Hz : -150 dBc 10'000 Hz : -155 dBc</p>	<p>1 Hz : -75 dBc 10 Hz : -90 dBc 100 Hz : -120 dBc 1'000 Hz : -135 dBc 10'000 Hz : -140 dBc</p>
Management interface	RS-232C	RS-232C	RS-232C RS-485
Power Supply <i>(*required external adaptor)</i>	<ul style="list-style-type: none"> ➤ 19-26 VDC ➤ 36-72 VDC* ➤ 72-132 VAC* ➤ 150-265 VAC* 	<ul style="list-style-type: none"> ➤ 9-18 VDC ➤ 18-60 VDC ➤ Optional 96-260 VAC external power supply 	<ul style="list-style-type: none"> ➤ -48 VDC ➤ Other DC on request
Hold-Over performances			
Long term stability	< ± 1x10 ⁻¹⁰ /day < ± 2x10 ⁻⁸ /year	< ± 1x10 ⁻¹⁰ /day < ± 2x10 ⁻⁸ /year	< ± 1x10 ⁻¹⁰ /day < ± 2x10 ⁻⁸ /year (Phase-Time: < 7μs/day) Typ.: < 2μs/day
Frequency stability	6x10 ⁻¹⁰ pp (0°C to +70°C)	6x10 ⁻¹⁰ pp (-5°C to +55°C)	1x10 ⁻¹⁰ pp (-5°C to +55°C) (-20°C to +70°C)
Typical applications	<ul style="list-style-type: none"> ➤ Lab reference source ➤ Satellite ground stations Equipment ➤ Systems with accurate Time & Frequency. ➤ Cellular network like: UMTS, GPRS, CDMA 	<ul style="list-style-type: none"> ➤ Lab reference source ➤ Satellite ground stations equipment ➤ Synchronisation of DAB & DVB equipment ➤ Cellular network like: UMTS, GPRS, CDMA, WiMax 	<ul style="list-style-type: none"> ➤ Frequency and Phase reference for Node B: 3G TD-SCDMA, WCDMA ➤ Synchronisation of DAB & DVB equipment ➤ Synchronisation of WiMax & WiBro Network
Size (HxWxD)	143,7x62,8x278,6mm 5.66"x2.47"x10.97"	50,8x101,6x127mm 2"x4"x5"	OEM board Customer defined
HIGHLIGHTS :	<ul style="list-style-type: none"> ➤ Reliable, low cost and compact GPS receiver. ➤ Simultaneous tracking of up to 8 satellites. 	<ul style="list-style-type: none"> ➤ Low Phase Noise output signal at 10MHz ➤ Economic, reliable and compact. 	<ul style="list-style-type: none"> ➤ Very low Phase Jump during channel switch over in redundant configuration ➤ Single or dual channel GPS



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Technical Specifications	Low profile	Low profile	Low Phase noise																																						
																																									
Model	8711 / 8712	8743	8788 / 8789																																						
Frequency range	4.096 to 40 MHz	6.480 to 30 MHz	5 / 10 MHz																																						
Temperature range	A: -20° to +70°C B: 0° to +70°C C: 0° to +60°C D: -10° to +70°C E: -40° to +70°C	A: -20° to +70°C B: 0° to +70°C C: 0° to +60°C	A: -20° to +70°C B: 0° to +70°C C: 0° to +60°C D: -10° to +70°C E: -40° to +70°C																																						
Stability vs temperature	Std: < 2 x 10 ⁻⁸ pp 1 : < 1 x 10 ⁻⁸ pp	Std: < 2 x 10 ⁻⁸ pp 1 : < 1 x 10 ⁻⁸ pp 6 : < 6 x 10 ⁻⁹ pp	Std: < 2 x 10 ⁻⁸ pp 2 : < 1 x 10 ⁻⁸ pp																																						
Long term stability Slope > 0 or < 0	< ± 5 x 10 ⁻¹⁰ /day < ± 1 x 10 ⁻⁷ /year	< ± 5 x 10 ⁻¹⁰ /day < ± 1 x 10 ⁻⁷ /year	< ± 5 x 10 ⁻¹⁰ /day < ± 7 x 10 ⁻⁸ /year																																						
Low aging option (day/year)	G: <±2 x 10 ⁻¹⁰ /day <±5 x 10 ⁻⁸ /year H: <±1 x 10 ⁻¹⁰ /day <±3 x 10 ⁻⁸ /year J: <±7 x 10 ⁻¹¹ /day <±2 x 10 ⁻⁸ /year	G: <±2 x 10 ⁻¹⁰ /day <±5 x 10 ⁻⁸ /year H: <±1 x 10 ⁻¹⁰ /day <±3 x 10 ⁻⁸ /year J: <±7 x 10 ⁻¹¹ /day <±2 x 10 ⁻⁸ /year	G: <±2 x 10 ⁻¹⁰ /day <±3 x 10 ⁻⁸ /year H: <±1 x 10 ⁻¹⁰ /day <±2 x 10 ⁻⁸ /year																																						
Short term stability	σ(τ) < 1 x 10 ⁻¹¹ (τ=0.2s to 10s)	σ(τ) < 1 x 10 ⁻¹¹ (τ=0.2s to 10s)	σ(τ) < 1x10 ⁻¹² (τ=1s)																																						
Frequency control (Electrical)	> ± 0.6 ppm (0 to +5V)	> ± 0.6 ppm (0 to +10V)	> ± 0.8 ppm (0 to +10V)																																						
Output specification	8711 8712 S: Sine > 4dBm S: Sine > -1.5dBm T: HCMOS/TTL compatible U: LV CMOS compatible	S: Sine > 0dBm/50Ω T: HC MOS/TTL compatible	S : Sine 8 ± 1dBm/50Ω																																						
Phase noise L (f) BW=1Hz	<table border="1"> <tr> <td></td> <td>T</td> <td>S</td> <td>Std</td> <td>10MHz</td> <td>Opt.L</td> </tr> <tr> <td>1 Hz</td> <td>-90 dBc</td> <td>-90 dBc</td> <td>-95 dBc</td> <td>-100 dBc</td> <td>-100 dBc</td> </tr> <tr> <td>10 Hz</td> <td>-120 dBc</td> <td>-120 dBc</td> <td>-125 dBc</td> <td>-130 dBc</td> <td>-130 dBc</td> </tr> <tr> <td>100 Hz</td> <td>-135 dBc</td> <td>-135 dBc</td> <td>-135 dBc</td> <td>-140 dBc</td> <td>-150 dBc</td> </tr> <tr> <td>1'000 Hz</td> <td>-140 dBc</td> <td>-140 dBc</td> <td>-145 dBc</td> <td>-150 dBc</td> <td>-157 dBc</td> </tr> <tr> <td>10'000 Hz</td> <td>-145 dBc</td> <td>-150 dBc</td> <td>-145 dBc</td> <td>-150 dBc</td> <td>-162 dBc</td> </tr> </table>		T	S	Std	10MHz	Opt.L	1 Hz	-90 dBc	-90 dBc	-95 dBc	-100 dBc	-100 dBc	10 Hz	-120 dBc	-120 dBc	-125 dBc	-130 dBc	-130 dBc	100 Hz	-135 dBc	-135 dBc	-135 dBc	-140 dBc	-150 dBc	1'000 Hz	-140 dBc	-140 dBc	-145 dBc	-150 dBc	-157 dBc	10'000 Hz	-145 dBc	-150 dBc	-145 dBc	-150 dBc	-162 dBc				
	T	S	Std	10MHz	Opt.L																																				
1 Hz	-90 dBc	-90 dBc	-95 dBc	-100 dBc	-100 dBc																																				
10 Hz	-120 dBc	-120 dBc	-125 dBc	-130 dBc	-130 dBc																																				
100 Hz	-135 dBc	-135 dBc	-135 dBc	-140 dBc	-150 dBc																																				
1'000 Hz	-140 dBc	-140 dBc	-145 dBc	-150 dBc	-157 dBc																																				
10'000 Hz	-145 dBc	-150 dBc	-145 dBc	-150 dBc	-162 dBc																																				
Power supply	8711 8712																																								
Input voltage (DC)	+12V ± 10%	+5V ± 5%	+12 V ± 5%	+12 V ± 5%																																					
Consumption (Warm-up @ +25°C)	<1.4W (5.0W)	<1.4W (4.0W)	<2W (7.5W)	<2.5W (8W)																																					
Size (L x W x H)	C08C 36 x 27 x 19.4 mm 1.42" x 1.07" x 0.76"	40 x 30 x 19 mm 1.57" x 1.18" x 0.748"			8788: 51 x 41 x 19 mm 8789: 2" x 2" x 0.748"																																				

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Technical Specifications	3rd overtone crystal	3rd overtone crystal	Low profile 19 mm
			 PRELIMINARY
Model	8663	8683	8863
Frequency range	4.096 to 40 MHz	1.024 to 40 MHz	4.096 to 40 MHz
Temperature range	A: -20° to +70° C B: 0° to +70° C C: 0° to +60° C	A: -20° to +70° C B: 0° to +70° C C: 0° to +60° C	A: -20° to +70° C B: 0° to +70° C C: 0° to +60° C
Stability vs temperature	Std: 4×10^{-9} pp 1: 1×10^{-9} pp 6: 6×10^{-10} pp 2: 2×10^{-10} pp	Std: 4×10^{-9} pp 1: 1×10^{-9} pp 6: 6×10^{-10} pp 2: 2×10^{-10} pp	Std: 6×10^{-10} pp 2: 2×10^{-10} pp
Long term stability Slope > 0 or < 0	$\pm 2 \times 10^{-10}$ /day $\pm 3 \times 10^{-8}$ /year	$\pm 2 \times 10^{-10}$ /day $\pm 3 \times 10^{-8}$ /year	$\pm 2 \times 10^{-10}$ /day $\pm 3 \times 10^{-8}$ /year
Low aging option (day/year)	G: $\pm 1 \times 10^{-10}$ /day $\pm 2 \times 10^{-8}$ /year H: $\pm 5 \times 10^{-11}$ /day $\pm 1.5 \times 10^{-8}$ /year J: $\pm 3 \times 10^{-11}$ /day $\pm 1 \times 10^{-8}$ /year	G: $\pm 1 \times 10^{-10}$ /day $\pm 2 \times 10^{-8}$ /year H: $\pm 5 \times 10^{-11}$ /day $\pm 1.5 \times 10^{-8}$ /year J: $\pm 3 \times 10^{-11}$ /day $\pm 1 \times 10^{-8}$ /year	G: $\pm 1 \times 10^{-10}$ /day $\pm 2 \times 10^{-8}$ /year H: $\pm 5 \times 10^{-11}$ /day $\pm 1.5 \times 10^{-8}$ /year J: $\pm 3 \times 10^{-11}$ /day $\pm 1 \times 10^{-8}$ /year
Short term stability	$\sigma(\tau) < 1 \times 10^{-11}</math>(\tau=0.2s to 10s)$	$\sigma(\tau) < 1 \times 10^{-11}</math>(\tau=0.2s to 10s)$	$\sigma(\tau) < 1 \times 10^{-11}</math>(\tau=0.2s to 10s)$
Frequency control (Electrical)	> ± 0.3 ppm (0 to +10V)	> ± 0.3 ppm (0 to +10V)	> ± 0.3 ppm (0 to +10V)
Output specification	S: Sine >4 dBm/50 Ω T: HCMOS/TTL compatible	S: Sine >4 dBm/50 Ω T: HCMOS/TTL compatible	S: Sine >4 dBm/50 Ω T: LVCMOS/HC MOS/TTL
Phase noise L (f) BW=1Hz	Std 10MHz Opt.L 1 Hz -90 dBc -100 dBc 10 Hz -120 dBc -130 dBc 100 Hz -135 dBc -140 dBc 1'000 Hz -145 dBc -150 dBc 10'000 Hz -145 dBc -150 dBc	Std 10MHz Opt.L 1 Hz -90 dBc -100 dBc 10 Hz -120 dBc -130 dBc 100 Hz -135 dBc -140 dBc 1'000 Hz -145 dBc -150 dBc 10'000 Hz -145 dBc -150 dBc	Std 10MHz Opt.L 1 Hz -90 dBc -100 dBc 10 Hz -120 dBc -130 dBc 100 Hz -135 dBc -140 dBc 1'000 Hz -150 dBc -155 dBc 10'000 Hz -150 dBc -155 dBc
Power supply			
Input voltage (DC)	+12V (24V on request)	+12V (24V on request)	+12V $\pm 10\%$
Consumption (Warm-up @+25° C)	<2,5W (8W)	<2,5W (8W)	<2,5W (8W)
Size (LxWxH)	51,1 x 41,1 x 25 mm 2.01" x 1.62" x 0.98"	50,8 x 50,8 x 25 mm 2" x 2" x 0.98"	51,1 x 41,1 x 19.05 mm 2.01" x 1.62" x 0.75"

Oscilloquartz SA reserves the right to change all specifications contained herein at any time without prior notice.

Technical Specifications	BVA standard version	BVA very low noise version
		
Model	8600	8607
Frequency range	5 / 5.120 / 10 / 10.240 MHz	5 / 10 MHz
Temperature range	-30° to +60° C	B: -30° to +60° C C: -15° to +60° C
Stability vs temperature	2×10^{-10} pp	B: 2×10^{-10} pp B1: 1×10^{-10} pp C5: 5×10^{-11} pp
Long term stability Slope > 0 or < 0	$\pm 2 \times 10^{-11}$ /day $\pm 5 \times 10^{-10}$ /month $\pm 4 \times 10^{-9}$ /year	$\pm 2 \times 10^{-11}$ /day $\pm 5 \times 10^{-10}$ /month $\pm 4 \times 10^{-9}$ /year
Low aging option (day/year)	G: $\pm 1 \times 10^{-11}$ /day $\pm 4 \times 10^{-9}$ /year H: $\pm 5 \times 10^{-12}$ /day $\pm 2 \times 10^{-9}$ /year J: $\pm 3 \times 10^{-12}$ /day $\pm 1 \times 10^{-9}$ /year	G: $\pm 1 \times 10^{-11}$ /day $\pm 4 \times 10^{-9}$ /year H: $\pm 5 \times 10^{-12}$ /day $\pm 2 \times 10^{-9}$ /year J: $\pm 3 \times 10^{-12}$ /day $\pm 1 \times 10^{-9}$ /year
Short term stability	8600-B $\sigma(\tau) < 1 \times 10^{-12}$ (t=0.2s to 30s) 8600-3 $\sigma(\tau) < 5 \times 10^{-13}$ (t=0.2s to 30s)	8607-B $\sigma(\tau) < 5 \times 10^{-13}$ (t=0.2s to 30s) 8607-__ $\sigma(\tau) < 8 \times 10^{-14}$ (t=3s to 30s)
Frequency control (Electrical)	Mechanical : > ± 0.1 ppm Electrical : > ± 0.02 ppm(0 to+10V)	Mechanical : > ± 0.1 ppm Electrical : > ± 0.02 ppm(0 to+10V)
Output specification	S: Sine 7dBm ± 1 dBm/50 Ω	S: Sine 7dBm ± 1 dBm/50 Ω
Phase noise L (f) BW=1Hz	Std B 5 MHz Opt.L 1 Hz -115 dBc -120 dBc 10 Hz -135 dBc -140 dBc 100 Hz -145 dBc -150 dBc 1'000 Hz -150 dBc -155 dBc 10'000 Hz -150 dBc -155 dBc	Std B 5 MHz Opt.L 1 Hz -125 dBc -130 dBc 10 Hz -145 dBc -145 dBc 100 Hz -153 dBc -153 dBc 1'000 Hz -156 dBc -156 dBc 10'000 Hz -156 dBc -156 dBc
Power supply		
Input voltage (DC)	+24V	+24V
Consumption (Warm-up @+25° C)	<3W (10W)	<3W (10W)
Size (LxWxH)	138 x 73 x 88 mm 5.43" x 2.87" x 3.46"	138 x 73 x 88 mm 5.43" x 2.87" x 3.46"

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