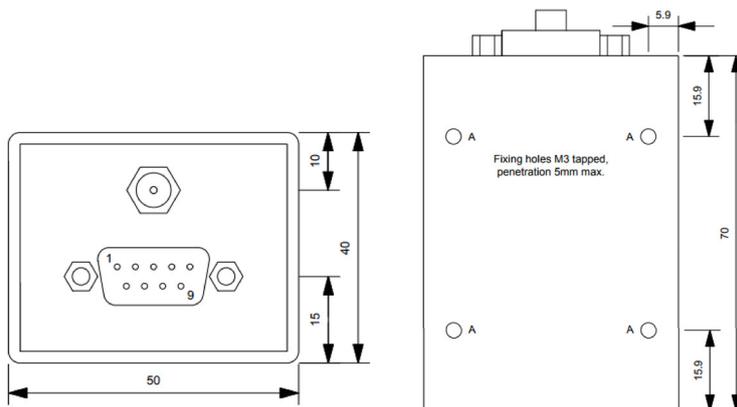


## QL720

The QL720 is a high stability oven controlled oscillator driven by an SC-cut crystal with excellent phase noise and short term stability. The QL720 can be mounted to a chassis using 4 x 3mm screws. The RF output is available on D9 connector and SMA/BNC connector. All QUARTZLOCK products are designed and manufactured in the UK by QUARTZLOCK.

### KEY FEATURES

- 10MHz output
- Low phase noise
- Excellent short term stability
- Single 5 to 24V supply
- Optional SMA or BNC output connector
- $<2 \times 10^{-10}$  aging per day
- Temp stability down to 1ppb (-20 to +70°C)
- Extended Temp range up to 125°C
- Sine wave or HCMOS/TTL
- Optional alarm output



Pin	Function
1	Freq. Adjustment
2	Fine Adjust
3	Freq. Adjustment
4	Isolated RF output
5	Not used
6	Voltage supply
7	Not used
8	Ground
9	Ground

### STANDARD MODELS

The table below shows the most common models; in most cases selecting one of these will ensure best combination of price, performance and availability.

Product Code	Frequency	Daily aging	Temp stability
<b>QL720/DPEW-N-AS12</b>	10MHz (sine)	$\leq 5 \times 10^{-10}$	$\leq 20$ ppb -20+70°C
<b>QL720/EREW-N-AS12</b>	10MHz (sine)	$\leq 3 \times 10^{-10}$	$\leq 10$ ppb -20+70°C
<b>QL720/DPEW-Q-AS12</b>	10MHz (HCMOS)	$\leq 5 \times 10^{-10}$	$\leq 20$ ppb -20+70°C
<b>QL720/EREW-Q-AS12</b>	10MHz (HCMOS)	$\leq 3 \times 10^{-10}$	$\leq 10$ ppb -20+70°C

## Electrical Specifications

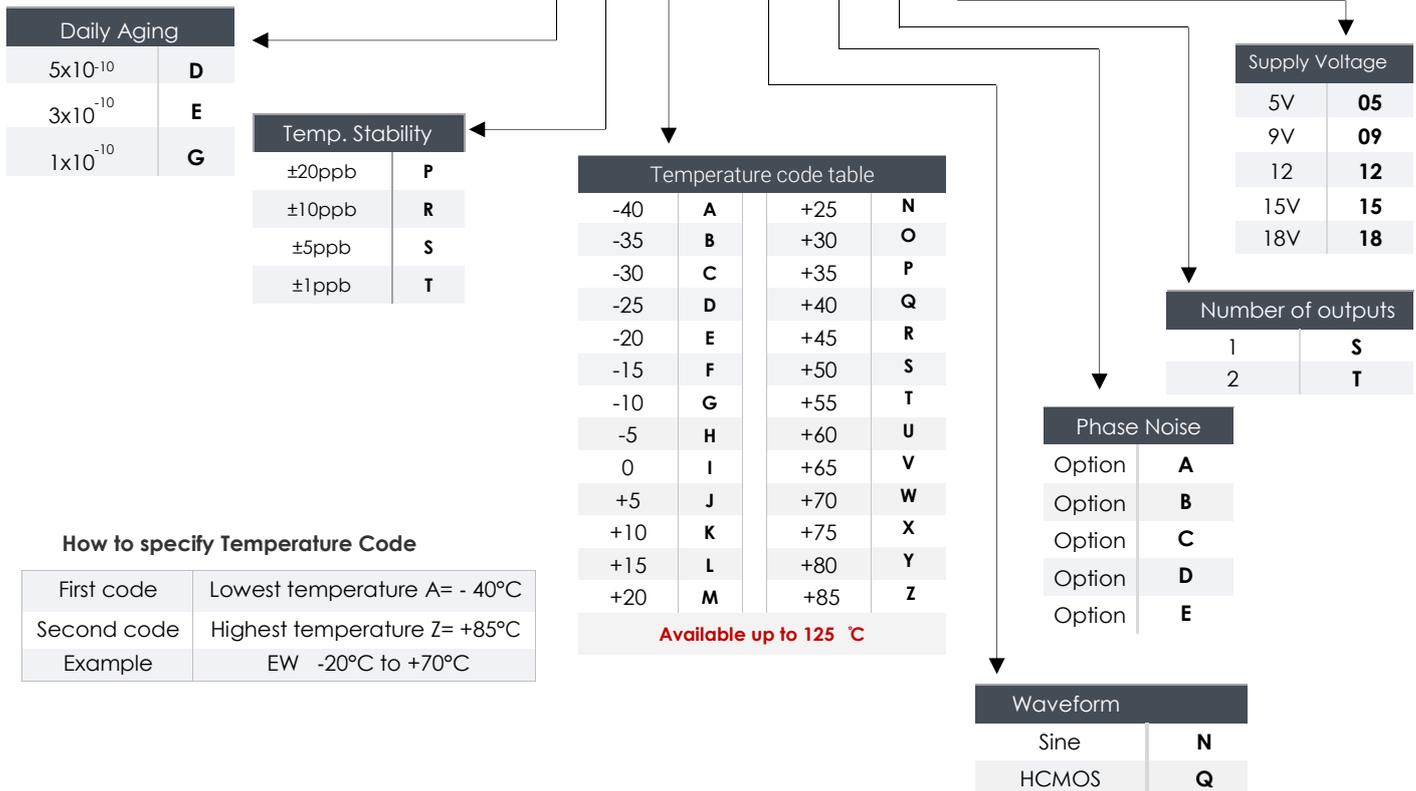
Frequency	10MHz (Available frequencies 10.23, 12, 12.8, 13, 16.384, 20MHz)				
Aging per day (Typical)	<0.5ppb (Aging after 30 days of continuous operation) See options				
Aging per year	<30ppb				
Frequency stability vs Voltage supply	<1ppb per 10% change in V <sub>DD</sub>				
Short term stability (Allan Deviation)	<2 x 10 <sup>-12</sup> (τ = 1 Sec.) <5 x 10 <sup>-13</sup> (τ = 1 Sec.) <b>Optional</b>				
Storage temperature	-55 to +150				
Typical frequency stability Vs temperature	<10ppb over -20 to +70°C (see more options on page 3)				
Output waveform	Sine wave+8dBm (±1dBm) into 50 Ω (AC coupled) HCMOS, <0.5V to >4V level (10KΩ/15pF), 45-55% Duty cycle				
Frequency adjustment (Typical)	Positive Tuning Slop >4 x 10 <sup>-7</sup> over 0 to +8V (or specify) Sufficient for >10 years of aging >50K trim input impedance				
Voltage reference output (Typical)	8V for +12V supply, 4.5 for +5V supply. (See <b>Note 1</b> )				
Supply voltage (V <sub>DD</sub> )	+12 (±5%)				
Power consumption	5W at warm-up <1.2W at steady state at 20°C				
Warm-up time from +25°C	≤2 after 10 mins				
Phase Noise (10MHz) dBc/Hz	Option A	Option B	Option C	Option D	Option E
1Hz	<-100	<-110	<-115	<-118	-100
10Hz	-130	-135	-140	-140	-125
100Hz	-148	-150	-152	-152	-150
1KHz	-155	-155	-155	-155	-162
10KHz	-158	-160	-160	-160	-170
100KHz	-158	-160	-160	-160	-170
Harmonics distortion	<-30				
Spurious	<-90				
Shock	IE68-2-27 Test Ea 50G for 11ms ( <b>Notes 2</b> )				
Vibration	IE68-2-06 Test Fc 10-55Hz, 1.5mm 55-500Hz, 10G				

**Note 1:** Voltage reference can be configured to any voltage, and must be less than supply/operating voltage.

**Notes 2:** Stresses beyond the ratings provided may cause permanent damage to the device. Exposure to conditions outside of the recommended operating conditions listed above may adversely impact the device resulting in failures not covered by the warranty.

## Create a Part Number

**QL720/ X X XX - X - X X X - 10MHz**



### Soldering guidelines

The unit can be mounted on the chassis or circuit board. Hand soldering is recommended with tip temperature of 370°C for 7 seconds and 430°C for 5 seconds maximum. Care must be taken to avoid any excessive bending or stress on the mounting holes. The chassis is internally grounded to the main ground pin.

This product is not suitable for immersion in cleaning fluids and should not undergo any ultrasonic cleaning process.

Contact us to configure this product to meet your application.

**Designed and manufactured in the U.K.**

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Quartzlock continuous improvement policy: spec subject to change without notice and not part of any contract.

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