Renesas’ family of clock oscillators offers designers a reliable on-time solution. Short lead-time, low noise, wide frequency range, excellent temperature versus frequency performance, and very little engineering effort for design in, makes them an excellent choice over conventional technology solutions. The clock oscillator families have stabilities as tight as ±3ppm, a range of phase jitter options, and temperature capabilities up to +105°C. These devices also offer extremely quick delivery for both standard and custom frequencies (16kHz to 2.1GHz).

**Renesas advantages**
- Configurable output type
  - LVCMOS (HCMOS), LVPECL, LVDS, HCSL, and CML
- Phase jitter options
  - 150fs, 400fs, and 1000fs
- 1.8, 2.5, and 3.3VDC voltage options
- Frequency stability options from ±3ppm to ±100ppm

**Applications**
- Networking
- Industrial
- Low power consumption
- Technical support resources

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**Configurable PLL Oscillator Family**

<table>
<thead>
<tr>
<th>Model</th>
<th>ProXO+ XT</th>
<th>ProXO XF &amp; XP</th>
<th>XU</th>
<th>XL</th>
<th>XA (AEC-Q200)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Package Options</td>
<td>3.2 x 2.5 mm</td>
<td>2.5 x 2.0 mm, 3.2 x 2.5 mm, 5.0 x 3.2 mm, 7.0 x 5.0 mm</td>
<td>5.0 x 3.2 mm, 7.0 x 5.0 mm</td>
<td>3.2 x 2.5 mm, 5.0 x 3.2 mm, 7.0 x 5.0 mm</td>
<td>3.2 x 2.5 mm</td>
</tr>
<tr>
<td>Voltage Options</td>
<td>1.8V, 2.5V, 3.3V</td>
<td>1.8V, 2.5V, 3.3V</td>
<td>2.5V, 3.3V</td>
<td>2.5V, 3.3V</td>
<td>2.5V, 3.3V</td>
</tr>
<tr>
<td>Phase Jitter (12 kHz to 20 MHz)</td>
<td>&lt; 150fs</td>
<td>&lt; 400fs</td>
<td>&lt; 1000fs</td>
<td>&lt; 1000fs</td>
<td>&lt; 1000fs</td>
</tr>
<tr>
<td>Outputs</td>
<td>LVDS, LVPECL, HCSL, CML</td>
<td>LVDS, LVPECL, HCSL, LVCMOS</td>
<td>LVDS, LVPECL, LVCMOS</td>
<td>LVDS, LVPECL, LVCMOS</td>
<td>LVDS, LVPECL, LVCMOS</td>
</tr>
<tr>
<td>Frequency Range</td>
<td>15 to 2100 MHz</td>
<td>0.016 to 1500 MHz</td>
<td>0.75 to 1350 MHz</td>
<td>0.75 to 1350 MHz</td>
<td>0.75 to 1350 MHz</td>
</tr>
<tr>
<td>VCXO option</td>
<td>Yes (analog and I2C)</td>
<td>—</td>
<td>Yes (analog) +/-50ppm APR</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>
HIGH-PERFORMANCE CLOCK OSCILLATOR FAMILY

Need to request a sample or determine an orderable part number?

Please use Renesas’ on-line tool for clock oscillators
renesas.com/customxo

Need to build a configurable part number?

General Configuration
Configuration complete!

Temperature
-20°C to +70°C
+40°C to +85°C
+40°C to +105°C

Stability
± 100 ppm
± 50 ppm
± 50 ppm APR (VCXO)
± 25 ppm
± 20 ppm
± 3 ppm (TCXO)

OE Position
Pin 1
Pin 2
Pin 5

Package
7 x 5 mm
5 x 3.2 mm
3.2 x 2.5 mm
2.5 x 2 mm

Jitter
< 1 ps (AEC-Q200)
< 1 ps
< 400 fs
< 150 fs

Voltage
3.3 V
2.5 V
1.8 V

Output Type
LVDS
LVPECL
CML
HCSL
HCMOS
HCMOSD, 2 outputs, 180° out of phase

Frequency (MHz)
837.500000

Need to check and see if an orderable part number exists?

Submit by Part Number (Optional)
Users who wish to submit a request and generate a datasheet addendum based on a part number, may do so here. The part number must be a valid part number. An entry here will override the selections in the General Configuration above. Leave this field blank to use the selection above.

XLL535312.500000I

To request samples, download documentation or learn more, visit: renesas.com/xo

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