



# New Product Announcement

## UCQ - XO Family

### Low-Power HCSL Crystal Oscillator Family for PCIe 6.0/5.0 Automotive Applications

The UCQ family of ultra-low jitter, low-power, automotive-compliant crystal oscillators (XO) supports PCIe® 6.0 clocks in automotive high-speed applications.

Their high-speed current steering logic (HCSL) output is backward compatible with PCIe 5.0 through PCIe 1.0 and also supports other high-speed interfaces utilizing HCSL clocks.

The family has an ultra-low jitter of less than 100fs<sub>RMS</sub>, which allows them to meet the stringent needs of PCIe 6.0.

The parts operate from 1.8V to 3.3V supply voltage and consume around half the current of standard HCSL devices.

They have been qualified to AEC-Q104 Grade 1 supporting ambient temperatures across -40°C to 125°C.

These devices are available in a variety of ceramic seam-sealed packages from 2.5mm x 2.0mm up to 7.0mm x 5.0mm.

*Automotive-compliant - AEC qualified, manufactured in IATF 16949 certified sites supporting PPAP documents.*

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#### The DIODES Advantage

**The UCQ family's ultra-low jitter make the devices ideal for PCIe 6.0 clocks in ADAS, telematics, and infotainment.**

- **PCIe Standard 100MHz Frequency, Plus Optional 25~161MHz Frequency Range**  
Flexible frequency options support various system design requirements
- **Low 15mA Current, Supporting 1.8V, 2.5V, 3.3V Supply Voltages**  
Half supply current of standard HCSL devices
- **Ultra-Low <100fs<sub>RMS</sub> Jitter:**  
Meets PCIe 6.0 specifications
- **On-Chip Termination**  
No need for external resistors—saves board space, and reduces cost
- **Automotive-Compliant Qualified to AEC-Q104 Grade 1**  
Supports -40°C to +125°C ambient temperature range

#### Applications

Automotive clocks and timing in:

- High-performance computing
- ADAS, telematics, and infotainment

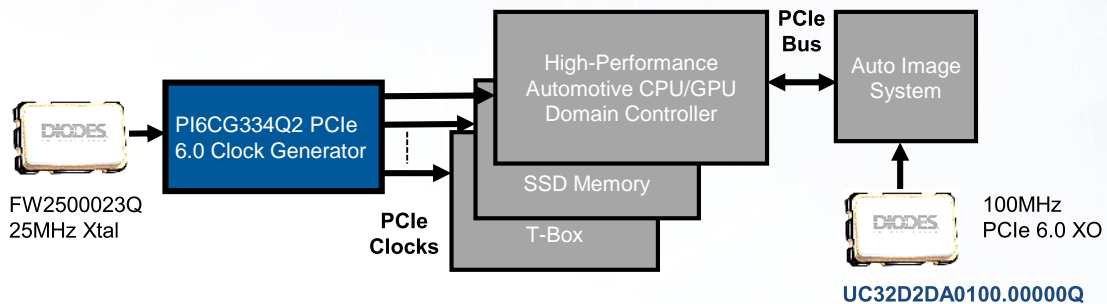


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### Typical Application

PCIe Architecture Controller for Automotive Systems

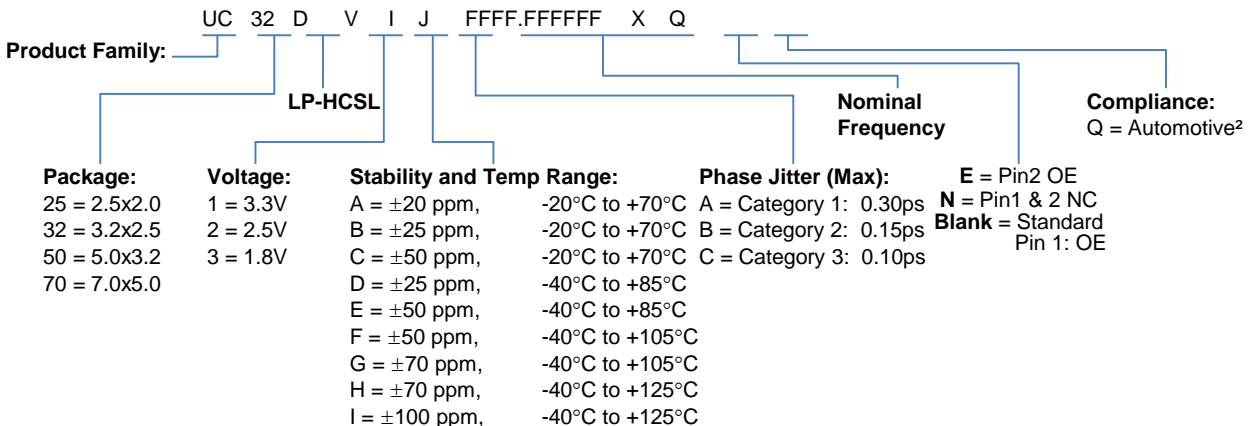


### PCIe 6.0 Automotive-Compliant XO Portfolio<sup>1</sup>

Part Number	Supply Voltage	Frequency	Temperature Range	Frequency Stability	Package
		MHz	°C		
<a href="#">UC25D3FB0100.000000Q</a>	1.8V	100	-40 to +105	±50ppm	Seam-sealed 2.5 x 2.0mm
<a href="#">UC32D2DA0100.000000Q</a>	2.5V	100	-40 to +85	±25ppm	Seam-sealed 3.2 x 2.5mm
<a href="#">UC32D1HB0156.250000Q</a>	3.3V	156.25	-40 to +125	±70ppm	Seam-sealed 3.2 x 2.5mm
<a href="#">UC25D2EC0133.300000Q</a>	2.5V	133	-40 to +85	±50ppm	Seam-sealed 2.5 x 2.0mm

1. The UCQ family supports more options than the listed Part Numbers above. For other variations, including other frequencies, please contact Diodes' sales department.

### Ordering Information



2. Only Automotive supports PPAP