

Stratum 3E OCXO Product Brief

Overview

Rakon continues to offer the most advanced oscillator technology available, offering a family of discrete and ASIC-based OCXOs compatible with Stratum 3E requirements. The ROM1490E is the smallest OCXO (package size 14 x 9 mm) available in the industry for Stratum 3E applications; it also offers fast warm up times and low power consumption.

Combining 50+ years of oscillator knowledge with world class manufacturing techniques, Rakon delivers enhanced reliability and superior performance. With excellent short and medium term stability performance, this unique range of OCXOs suits packet-based timing solutions and traditional timing solutions, providing wander compliance and holdover stability for Stratum 3E requirements.

осхо	Model Code	Package Size	Frequency Range	Stability (FvsT, -40 to 85°C)	Ageing
14 x 9 mm	ROM1490E	14 x 9 mm	10 to 40 MHz	10 ppb pk-pk	<±1 ppb/day
20 x 13 mm	ROX2013T4	21 x 13 mm	10 to 40 MHz	±10 ppb	<±0.5 ppb/day
25 x 22 mm	ROX2522S4 ROX2525S4	25 x 22 mm 25 x 25 mm	10 to 40 MHz	10 ppb pk-pk	<±0.5 ppb/day
(25 x 25 mm)	ROX2522S3	25 x 22 mm	10 to 40 MHz	1 ppb pk-pk	<±0.2 ppb/day

High Performance Stratum 3E OCXOs

Highlights

- Temperature stability down to 1 ppb pk-pk
- > Frequency slope down to 0.1 ppb/°C
- MTIE and TDEV are compliant with
 G.8263 at <0.1 mHz filter
- > Ageing down to ±0.3 ppb/day
- > Low noise floor: as low as -158 dBc/ Hz at 100 kHz offset
- > Low power consumption down to: 440 mW
- Small package size 14 x 9 mm hermetic
- > Industry standard foot print options

Applications

- > G.8263 compliant timing solutions
- > Backhaul Equipment Clocks
- > SyncE-enabled Carrier Ethernet Switches and Routers
- > Grand Master Clock and Timing Servers
- > Packet Based Clocks: G.8273.x
- > Smart Grid Synchronisation Modules
- > Transport Equipment Timing Solutions

Compliance Support

- > GR-1244 Stratum 3/3E & GR 254
- > G.812 Type II and III Clocks
- > ITU-T SDH Slave Equipment Clocks based on G.813, SyncE Ethernet Equipment Clocks based on G.8262
- Packet Based Timing Recovery standards (ITU-T G.8263, G.8273.x)
- > Interfaces: ITU-T G.823, G.824, G.8261 & G.8271



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MTIE Performance of Rakon OCXOs



Stratum 3E OCXO for Typical Applications



Additional Rakon Oscillator and Timing Product Solutions

Products Family	Product Series	Key Capabilities 🐳 🥥 🥥 🏹 🤍 💙					
тсхо	Ultra Stable	1.5 to 52 MHz, ±0.05 to 2.0 ppm as wide as -55°C to 105°C and in 7.0 x 5.0 or 5.0 x 3.2 mm packages.					
	High Stability	10 to 52 MHz, ±0.5 to 5 ppm over -40 to 85°C and in 3.2 x 2.5, 2.5 x 2.0 or 2.0 x 1.6 mm packages.					
vcxo	M / P / R	8 to 1500 MHz with low phase-noise and CMOS/PECL/LVDS in 7.0 x 5.0, 5.0 x 3.2 or 2.5 x 2.0 mm packages.					
	С	1.5 to 54 MHz commercial CMOS output in 7.0 x 5.0 or 5.0 x 3.2 or 3.2 x 2.5 mm packages.					
хо	M / P / R	8 to 1500 MHz with <1 ps jitter and CMOS/PECL/LVDS in 7.0 x 5.0, 5.0 x 3.2 or 2.5 x 2.0 mm packages.					
	Q	8 to 1500 MHz selectable frequency, 1.0/2.0 ps jitter and CMOS/PECL/LVDS output in 2.5 x 2.0 mm package.					
	С	0.75 to 60 MHz commercial CMOS output in 7.0 x 5.0, 5.0 x 3.2, 3.2 x 2.5, 2.5 x 2.0 or 2.0 x 1.6 mm packages.					
Crystals	RSX	12 to 48 MHz for Ethernet, WiFi and USB.					
	RTF	32 kHz for real time clocks.					

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