

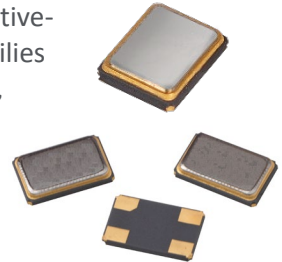


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FOR IMMEDIATE RELEASE

Portfolio Expansion: Automotive Grade Crystal Resonators

Lisle, IL – CTS Corporation (NYSE: CTS) announces a significant expansion of its automotive-grade crystal resonator product portfolio. The expansion includes four new crystal families and performance upgrades to previously released models, all designed for automotive, industrial, medical and commercial military/aerospace applications requiring wide operating temperature ranges. Each crystal platform is manufactured on TS16949 certified production lines, AEC-Q200 qualified, PPAP compliant, and operates over standard automotive temperature ranges (-55°C to +125°C).



The new range of automotive-grade crystal resonators delivers excellent stability performance over extended temperature ranges ideal for fan-less applications in a wide variety of market segments including IoT/IoT, telecommunication infrastructure, networking, server applications, test and measurement, and medical diagnostic equipment. Our automotive-grade crystal portfolio joins CTS' existing lineup of automotive-grade tuning fork crystals [TFA] and clock oscillator [CA] products.

New models include SA164, SA204, SA254 and SA532 [2-pad]. Additionally, a legacy metal package [HC-49/US-SM] has been upgraded to include an automotive-grade option and released under the model designation HTA. Standard product features, common market applications, and new family platforms are summarized below. Please refer to individual data sheets on our website to view more performance characteristics.

Product Features

- TS16949 Certified
- AEC-Q200 Qualified
- PPAP Compliant
- Low ESR Ranges
- Temperature Range to -55°C to +125°C
- Stability Options – ±15ppm to ±150ppm
- Fundamental or 3rd Overtone Crystal Designs
- Tape and Reel Packaging

Small Ceramic Surface Mount Packages

- 1.6mmx1.0	- 2.0mmx1.6mm	- 2.5mmx2.0mm	- 3.2mmx2.5mm	- 5.0mmx3.2mm [2 & 4 pad]
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Common Frequencies Available [Model Dependent]

- 12.00MHz	- 20.00MHz	- 24.00MHz	- 25.00MHz	- 26.00MHz
- 27.00MHz	- 27.12MHz	- 30.00MHz	- 32.00MHz	- 40.00MHz

[Consult data sheets and contact factory for availability of frequencies not listed.]

Market Applications

- Automotive Electronics
- Mobile Multimedia
- Internet of Things [IoT, IIoT]
- Microcontrollers and FPGAs
- Wireless Communication
- Infotainment
- Car Navigation Systems
- Ethernet/GbE/SyncE
- Commercial Military/Aerospace
- Medical Electronics
- Energy Industry
- Test and Measurement

Product Summary

Selector Guide

MODEL	PACKAGE SIZE [mm]	FREQUENCY [MHz]	TOLERANCE @ +25°C	STABILITY OVER TEMPERATURE	OPERATING TEMPERATURE RANGE
SA164	1.6 x 1.2	24 – 60	±10ppm	±15ppm	-40°C to +85°C
SA204	2.0 x 1.6	16 – 96	±15ppm	±20ppm	-40°C to +105°C
SA254	2.5 x 2.0	12 – 80	±20ppm	±30ppm	-40°C to +125°C
SA324	3.2 x 2.5	8 – 160	±30ppm	±50ppm	-40°C to +150°C
SA532	5.0 x 3.2 [2-pad]	7.6 – 160	±50ppm	±100ppm	-55°C to +105°C
SA534	5.0 x 3.2 [4-pad]	7.6 – 160	±50ppm	±150ppm	-55°C to +125°C
HTA	11 x 4.8	3.5 – 64	±10ppm ±15ppm ±20ppm ±25ppm ±30ppm	±15ppm ±20ppm ±30ppm ±50ppm ±100ppm ±150ppm	-40°C to +85°C -40°C to +105°C -40°C to +125°C -55°C to +125°C
TFA16	1.6 x 1.0	32.768kHz	±10ppm	±150ppm	-40°C to +85°C
TFA20	2.0 x 1.2		±20ppm	±200ppm	-40°C to +105°C
TFA32	3.2 x 1.5				

https://www.ctscorp.com/connect_product_line/crystals/

Sales Contact

Production volume and samples are available now. For more information call +1-800-982-5737 (North America), +65-6481-1466 (Asia) or +1-508-435-6831 (all other regions), E-mail:

frequencysales@ctscorp.com, see our website for more information as well as to contact a CTS Sales Representative or one of CTS's many distribution partners.

About CTS

CTS (NYSE: CTS) is a leading designer and manufacturer of products that Sense, Connect, and Move. The company manufactures sensors, actuators, and electronic components in North America, Europe, and Asia. CTS provides solutions to OEMs in the aerospace, communications, defense, industrial, information technology, medical, and transportation markets.

For more information on CTS Corporation, please visit www.ctscorp.com.

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