

ELECTRONIC SYSTEMS

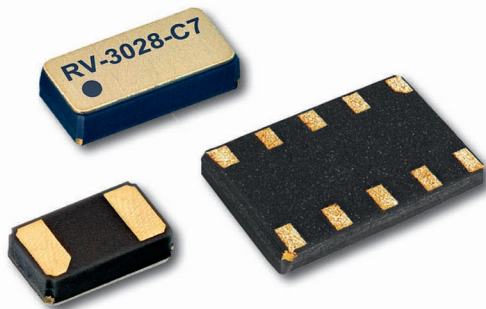


Semiconductors

EM Microelectronic-Marin

is a semiconductor manufacturer specialized in ultra low power, low voltage integrated circuits for consumer, automotive and industrial applications.

by  em microelectronic



Crystals, RTCs, Oscillators

Micro Crystal

The leader in precision timing products, Low Frequency Tuning Fork Quartz Crystals, Real-Time Clocks (RTC) and Oscillators

by  MICRO CRYSTAL SWITZERLAND



Batteries & Rechargeables

Renata

Renata the world-class leader in coin cells from Switzerland, also offers a comprehensive range of rechargeable microbatteries.

by  renata batteries



em microelectronic

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EM Microelectronic Marin

EM Microelectronic is a semiconductor manufacturer specialized in the design and production of ultra-low power, low voltage integrated circuits for battery-operated and field-powered applications in the consumer, industrial and automotive markets. From conceptual idea to final product, EM provides on-demand fusion of technologies for tailor-made solutions.



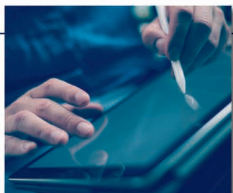
Time

Design and production of ultra-low power integrated circuits for highest precision devices. Time accuracy is a key enabler for green, user-friendly IoT applications.



Sensing

Smartphones, tablets, wearables and drones integrate numerous sensors to determine a device's orientation and motion, while IoT devices need to permanently provide environmental data such as temperature and humidity. EM's solutions combine the output of various sensors to derive highly accurate estimates of a device's orientation, movement and surrounding conditions.



Interfaces

Solutions helping humans to easily interact with machines, from watches to computers and Industry 4.0 devices. Highest performance wireless mice, smart pens, motion sensing in mobile phones, always-on tactile wearable interfaces and flexible plastic display modules are a few examples.



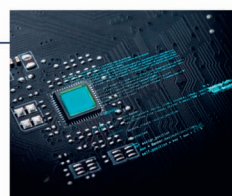
Communication

Creator of the world's smallest Bluetooth chip and the world premiere RAINFC dual frequency RFID tag, EM is a global player in RF and RFID technologies, for markets such as access control, brand protection, animal ID, logistics, road tolling and connected wearables. Coupled with EM's sensing capabilities, such devices deliver powerful context-aware RFID and IoT solutions.



Energy

Optimized solutions to harvest, store and manage energy in battery- or field-powered devices for enabling greener solutions with seamless user experience.



Smart Processing

Context awareness, user interaction and smart processing are at the heart of every electronic device today. Always focused on ultra-low power for superior device autonomy, EM offers a range of embedded microcontroller solutions, tailored for specific applications where power consumption, small size and performance are not subject to compromise.

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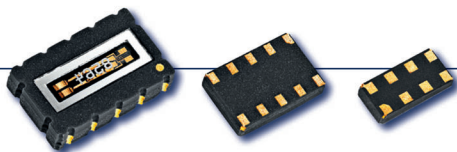
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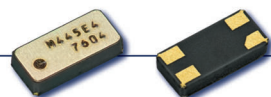
Micro Crystal

Micro Crystal AG is a leading manufacturer of Miniature Tuning Fork Quartz Crystals (32kHz to 250MHz), Real Time Clocks, Oscillators and OCXOs for the world's leading manufacturers of mobile phones, consumer products, computers, automobile electronics, watches, industrial controls, as well as medical implantable devices and other high-reliability product applications.



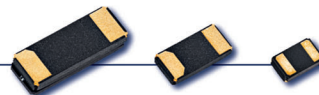
Real-Time Clocks

Lowest power	45 nA
High precision	0.26 s/day, 3 ppm
Temperature compensation	-40 to +125°C



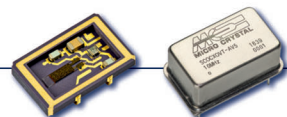
Low power Oscillators

32.768 kHz
100.000 kHz
Lowest power, tuning fork



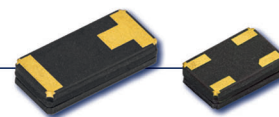
kHz TF Crystals

32.768 kHz
Tuning fork crystal
Miniature ceramic SMD



MHz Oscillators

XO up to 210°C
VCXO up to 210°C
OCXO up to 120 MHz



MHz AT-cut Crystals

Frequency up to 250 MHz
High temperature up to 200°C
High-end applications

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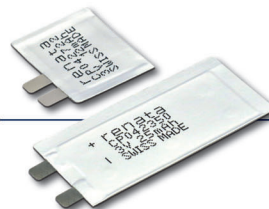
Renata

Within only a few years, the company became a leading manufacturer and supplier of coin cells for watches and many electronic product areas (medical technology, RFID, radio control, metering, and many more). Renata lithium batteries meet the highest quality standards and offer excellent reliability. Sufficient inventory as well as a network of dedicated importers and distributors make Renata products readily available world-wide.



Primary cells

Silver-Oxide	1.55 V
Lithium	3.0 V



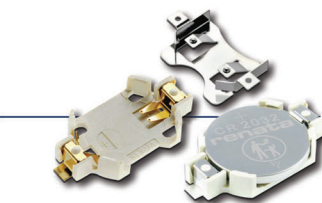
Thinfilm primary

Lithium	3.0 V
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Secondary cells

Lithium-Ion	3.0 V
Lithium-Cobalt-Oxide	3.7 V
Lithium-Iron-Phosphate	3.2 V



Battery holders

Metal low profile
Thru hole mounted
Surface mounted
Gold plated