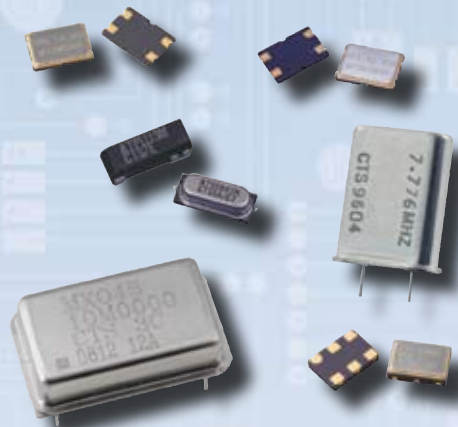


CRYSTAL and CLOCK OSCILLATORS



Applications: Timing control for ASICs and processors that are used in a broad range of equipment for the Medical, Defense/Aerospace, Industrial Controls, Power Management, Communications, Computer and Electronic Networking markets.

Crystals:

- Miniature ceramic or metal can packaging
- Surface mount and thru-hole
- 1.8 Mhz — 60 Mhz frequency range

Oscillators:

- 1.0 Mhz — 750 Mhz frequency range
- 5V, 3.3V and 2.5V clock oscillators
- Low profile packaging

RF FILTERS and DUPLEXERS



Applications: High performance RF ceramic monoblock bandpass filters and duplexers designed for telecommunications infrastructure, satellite communications, avionics, test and guidance systems for both commercial and military use.

- 450 MHz to 6 GHz
- -40°C to +85°C
- Up to 20 W average power
- Surface mount and thru-hole

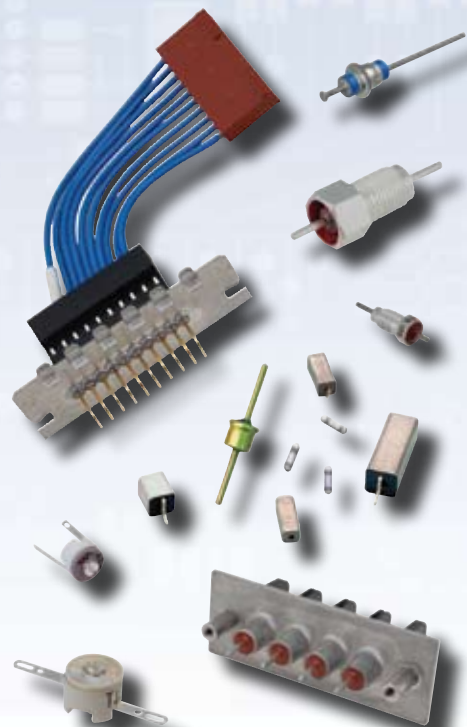
OCXO, TCXO, VCXO/VCXO (SAW) OSCILLATORS



Applications: The CTS portfolio of high performance oscillators serves the timing/frequency reference requirements for many types of equipment. Telecommunication OEMs, from wireless base stations to optical routing and transport, utilize a wide variety of these products. Microwave, satcom and navigation applications; high end test equipment, medical imaging and defense/aerospace (COTS) customers depend on CTS oscillators for demanding frequency control performance.

- Best in class, highest precision OCXOs; double oven and super single
- World's smallest and lowest cost SMT OCXOs in 9X14mm packages
- Precision, low noise TCXOs to 155MHz in 9X14mm and 5X7mm SMT packages
- Low noise, high frequency VCXOs and VCXOs to 850MHz

EMI/RFI FILTERS and TRIMMER CAPACITORS



Applications: EMC filtering for telecommunications, CATV, telemetry, radar, amplifiers, RF switches and industrial process control equipment. Uses for CTS miniaturized trimmer capacitors include avionic instruments, communications and test equipment. Products approved to MIL-PRF-15733, MIL-PRF-81 and MIL-C-11015.

- EMI/RFI Feed-through Filters
 - US or Metric thread bushing mount
 - MIL listed parts available
 - Press fit available
 - Hermetic (glass) seal available
- Surface Mount EMI Filters
 - Tin or Solder plated over fired-on silver electrodes with nickel barrier
- Filtered Terminal Blocks
 - Up to 30A, AC or DC
 - UL recognized
 - Pi or C circuits
- Filter/Capacitor Plate Assemblies
 - Standard or customer specifications
 - Mix and match of filter capacitances
- Ceramic Trimmer Variable Capacitors
 - Thru-hole or surface mount
 - MIL listed parts available
- Ceramic Coaxial Resonators
 - 2mm – 12mm square section
 - Tin plated over fired-on silver with nickel barrier for good solderability or unplated fired-on silver

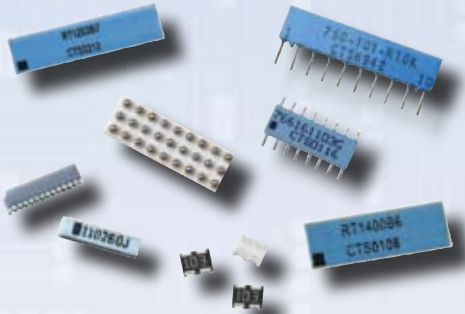
POTENTIOMETERS, ENCODERS and MINI-JOYSTICKS



Applications: Controls for motor speed, lighting, HVAC and appliances; industrial cooking equipment and industrial control valves; musical, fitness, medical and test equipment; linear actuator sensors, off-road vehicles, mobile radios and gaming consoles.

- 9, 12, 16, 24mm Rotary Carbon Potentiometers
 - Power switch options for 16, 24mm controls
 - Ganging options—single or concentric shafts
- 19, 24mm Rotary Wirewound Potentiometers
- 16mm Precision Potentiometers
- 10, 15mm Carbon Trimmers
- 6mm Cermet Trimmers
- Slide Potentiometers with power switch options
- 9, 16mm Encoders with optional switch & detents
- Mini-Joysticks: miniature, half-height, ultra-mini

RESISTOR NETWORKS



Applications: Space efficient components with excellent tolerance performance used as high speed bus terminations for data transmission and telecom systems. Resistor Networks reduce the cost of component placement, provide for matched temperature performance and increased system reliability.

- ClearONE™ Terminators
 - BGA packaging
 - Resistive and R/C networks
- Resistor Networks
 - Surface mount leadless and thru-hole SIPs
 - Surface mount DIPs
- Chip Resistor Arrays

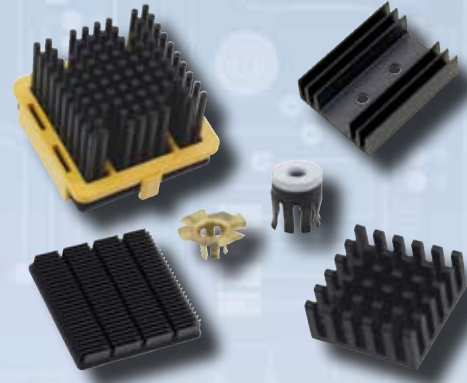
SWITCHES



Applications: Switches used in graphic cards, servers, set top boxes, data networking and security systems; smoke detectors, thermostats, circuit breakers and audio equipment; automobiles, emergency vehicle equipment and mobile radios; telecom, central office and transmission systems; vending machines, irrigation and garage door opening systems.

- Dual In Line (DIP) Switches
 - Thru-hole and surface mount
 - Standard and low profile
 - SPST, SPDT, DPST, DPDT configurations
 - Top, side and right-angle actuation
 - Custom designs
- Rotary Selector Switches
 - Stamped or die-cast housings
 - Multi-wafer customization
- Miniature Slide Switches

HEAT SINKS



Applications: Heat management components are available in an extensive array of styles and configurations to satisfy critical thermal cooling requirements for electronic devices, such as surface mount devices (SMDs), CPUs, power transistors, diodes and ICs. Board level heat sinks are also available for TO-5, TO-8 and TO-18 cases that conform to NAS and MIL specifications.

- Thermal resistances as low as 0.9°C/W
- Extruded
- Precision Forged
- Stamped

ZIF CIRCUIT BOARD RETAINERS



Applications: Any circuit card retention system where thermal conduction is required. The ZIF retainer provides a highly effective thermal interface between a circuit card and coldwall. Available in Standard (coldwall mounted) and ZIF III (circuit board mounted).

- Positive 1/4 turn locking
- Superior mechanical retention
- Thermally efficient; 0.9°C—inch/watt
- Size range: 1.5 to 10.5 inches in length

PIEZOELECTRIC CERAMIC MATERIALS (PZT)

CTS produces a comprehensive selection of PZT material compositions suitable for the most demanding ultrasonic applications. Utilizing high volume capability and large format wafers, PZT materials are fabricated in both high density (>99.5%) and standard density (97%)

forms. CTS has increased its materials portfolio with the addition of the Alpha Ceramics line of hard PZTs (Navy Type 1). CTS' PZT manufacturing capabilities offer value added solutions that include piezoelectric composites, photolithography and precision machining.

Additional information is available at www.ctscorp.com/components and through: