Protec GmbH
Vertrieb elektronischer Bauteile

Q-TECH CORPORATION
www.q-tech.com

# SPACE COMPONENTS NEWSLETTER *APRIL 2017*

**Other Standard Q-Tech Products:**

**Q-Tech's Standard XOs:**

QT606C/L – 100kRad – 1MHz to 100MHz
QT625C/L – 100kRad – 70kHz to 150MHz
QT641C/L – 100kRad – 1MHz to 100MHz

**Q-Tech's VCXOs:**

QTV701 to 6 – 100kRad – 2MHz to 150MHz
QTV711 to 6 – 100kRad – 2MHz to 350MHz
QTV721 to 6 – 100kRad – 2MHz to 225MHz
QT725C – 100kRad – 3MHz to 225MHz

**Other new Rad Hard Versions Coming soon:**

- Q-Tech parts for Mega Constellations
- VCSO Voltage Controlled SAW Oscillator
- TCSO Temperature Compensated SAW Oscillator
- OCSO Oven Controlled SAW Oscillator
- MCXO Microcomputer Compensated Crystal Oscillator (Performance of a OCXO but much lower Power consumption)
- PLLs with low noise SAW locked to a TCXO or OCXO
- Low Noise Phase locked DRO Reference


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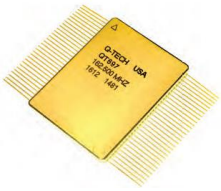
## New Multiple-Output XO

**3.3Vdc, 1 to 12 Differential LVDS Pairs, Space Qualified Crystal Oscillators - 15MHz to 200MHz**



Q-Tech QT625LW & QT697LW series Space Qualified, 100kRad(Si) Tolerant Hybrid Oscillators are Class 2 hybrids per MIL-PRF-55310, Multiple-Output LVDS, hermetically sealed in a 20-pin Flat-Pack .625" SQR or 1.25" x 1.65" 62-pin custom Flat-Pack, and operate at 3.3Vdc over full military -55°C to +125°C temperature range.

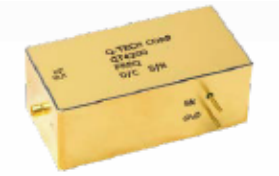
## QT800 lowest phase noise TCXO

**3.3Vdc, 5.0Vdc, 12.0Vdc, and 15.0Vdc - 3MHz to 350MHz Frequency/Temperature Stability ±0.5ppm and ±1ppm for 10 year aging and the lowest phase noise TCXOs for Space.**

Q-Tech QT800 Series Space Qualified, 100kRad(Si) Tolerant Hybrid Oscillators are Class 2 Hybrids per MIL-PRF-55310. These CMOS and Sine Wave TCXOs are hermetically sealed in a 24 pin Double Dual In-Line, 24 pin Flat-Pack .975" x 1.275", or 32 pin Flat-Pack 1" SQR.

## QT4200 Ultra³ Space OCXO

**Ultra Miniature, Ultra Rugged, Ultra Stable**
**5.0Vdc, 12Vdc or 15Vdc Space Qualified OCXO**



Small size High Stability Oven Controlled Crystal Oscillator (OCXO) is a high reliability signal generator that provides Sine wave or HCMOS output. The OCXO is designed to be used in Aerospace applications. It is designed to withstand radiation level up to 100kRad, high shock and vibration. The OCXO has very low phase noise. Low G-Sensitivity SC-Cut Crystal utilized in the design guarantees 1PPB/G or better. The reliable construction of this design qualifies it for stringent environmental applications.

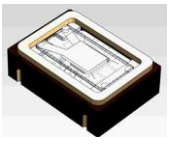
## QT625S SAW up to 1,3 GHz

**Space Qualified SAW (Surface Acoustic Wave)**
**3.3 and 5.0Vdc - 400 MHz to 1.3 GHz**

Q-Tech SAW Oscillators (SO) provide superior performance at operating frequencies from 400MHz to 1.3GHz. QT625S delivers low phase noise, -105 dBc/Hz at 1 kHz offset and –165 dBc/Hz noise floor. Typical vibration sensitivity is less than 2ppb/g. The QT625S SO is a Class 2 hybrid per MIL-PRF-55310, hermetically sealed, in a 20-pin Flat-Pack 0.625" square, and operated at maximum temperature range for –40°C to +85°C. The design can employ internal frequency multiplication to optimize noise performance.

## Low Cost, Small form factor Space XOs

**Several different packages including 5x7mm with Four Point Mount Crystal**



Q-Tech Class B+ Series is Fully approved for Flight, RadHard up to 100krad TID, No SEL, HCMOS, TTL, LVPECL, LVDS, LVCMOS. Swept Quartz Crystal. Low Phase Noise, Class S Screening available. Different Package Options available. Class K / TOR Element Evaluation. Smaller Form Factor and Lower Cost. ECCN Classification EAR99