

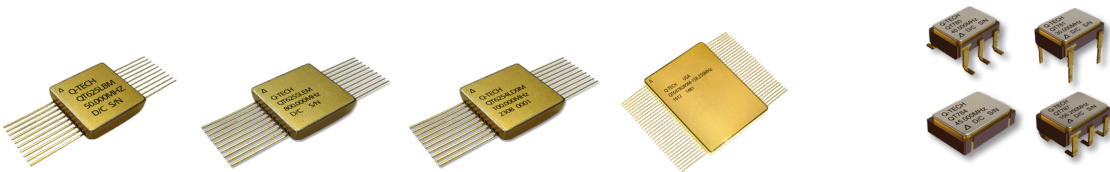


Crystal Oscillators for Full Space Applications

The full space environment is particularly demanding on electronic components. Extending far beyond the emerging LEO environment, full space oscillators are exposed to harsher levels of radiation.

Crystal Oscillators (XOs)

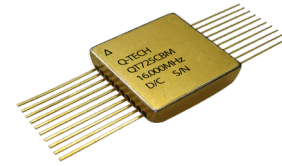
A wide selection of XOs in small surface mount and standard leaded packages.



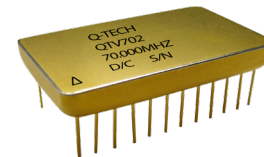
Product Line	QT625L/C	QT625xL/xN	QT625LW	QT697LW	Class B+
Frequency	750kHz - 150MHz	20 - 200MHz	15 - 200MHz		15kHz - 250MHz
Stability	±25ppm to ±50ppm				
Temperature Range	-55°C to 125°C				
Radiation	100kRad(Si) TID				
SEL (min)	93MeV-cm ² /mg	117MeV-cm ² /mg			110MeV-cm ² /mg
Phase Noise (typ)	Consult Factory	-150dBc/Hz at 1MHz offset			Consult Factory
Crystal Type	Swept				
Crystal Mount	3-point / 4-point				
Screening	MIL-PRF-38534, Class K				MIL-PRF-55310, Level S or MIL-PRF-38534, Class K
Supply Voltage (Vdc)	3.3, 5.0	2.5, 3.3	3.3		1.8, 2.5, 3.3, 5.0
Output	CMOS	Up to 4 CMOS	Up to 4 LVDS	6 to 12 LVDS	CMOS, TTL, LVDS, LVPECL
Size	0.625 x 0.625 x 0.150 in			1.25 x 1.648 x 0.20 in	Consult Factory
Special Notes	Multiple, low-skew outputs drive multiple FPGAs with one clock				See Website for Complete List

Voltage Controlled Crystal Oscillators (VCXOs)

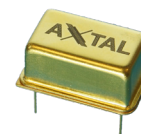
Product Line	QT725C	QTV700	AXIS45S
Frequency	3 - 100MHz	2 - 350MHz	10 - 100MHz
Frequency Pulling (min)	±110 ppm	±90 ppm	±15 ppm
Temperature Range	-55°C to 125°C	-40°C to 85°C	-20°C to 70°C
Radiation	100kRad(Si) TID		
SEL (min)	125MeV-cm ² /mg		Insensitive
Phase Noise (typ)	Consult Factory		
Crystal Type	Swept	Swept	Swept
Crystal Mount	3-point	4-point	2-point
Supply Voltage (Vdc)	5.0	3.3, 5.0, 12, 15	5.0
Output	CMOS	CMOS, Sine Wave	Sine Wave
Screening	MIL-PRF-38534, Class K	MIL-PRF-55310, Level S	
Size	0.625 x 0.625 x 0.150 in	1.28 x 0.78 x 0.3 in 0.975 x 1.275 x 0.21 in 1.105 x 1.105 x 0.20 in	13.1 x 20.7 x 7.5 mm



QT725C



QTV700

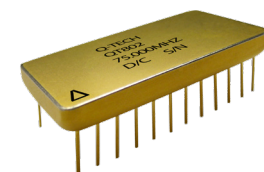


AXIS45S

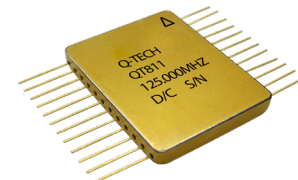
Temperature Compensated Crystal Oscillators (TCXOs)

TCXOs deliver tighter frequency stability performance in small package options.

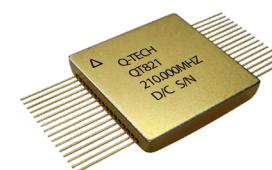
Product Line	QT800
Frequency	3 - 350MHz
Stability	As low as ±0.5 ppm
Temperature Range	-40°C to 85°C
Radiation	100kRad(Si) TID
SEL (min)	110MeV-cm ² /mg
Phase Noise (typ)	-160dBc/Hz at 1MHz offset
Crystal Type	Swept
Crystal Mount	4-point
Supply Voltage (Vdc)	3.3, 5.0, 12, 15
Output	CMOS, Sine Wave
Screening	MIL-PRF-55310, Level S
Size	24-pin DIP: 1.280 x .790 x .300 in 24-pin Flat Pack: .975 x 1.275 x .210 in 32-pin Flat Pack: 1.015 x 1.015 x .200 in



QT800



QT810



QT820

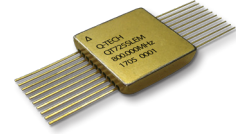
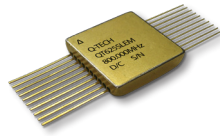
Oven Controlled Crystal Oscillators (OCXOs)

OCXOs provide ppb stability and low long term aging for the most stringent space applications.



Product Line	QT4100	QT4200	AXIOM6060
Frequency	1 - 125MHz		80 - 125MHz
Stability	as low as ±10 ppb		±50 ppb
Temperature Range	-40°C to 85°C	-40°C to 75°C	-30°C to 70°C
Radiation	100kRad(Si) TID		
SEL (min)	Immune		
Phase Noise (typ)	-110dBc/Hz @ 10Hz offset -160dBc/Hz @ 100kHz offset		-105dBc/Hz @ 10Hz offset -170dBc/Hz @ 100kHz offset
Crystal Type	Swept		
Crystal Mount	4-point		
Supply Voltage (Vdc)	3.3, 5.0, 12, 15		12
Output	CMOS, Sine Wave		Sine Wave
Screening	MIL-PRF-55310, Level S		
Size	2.56 x 2.00 x 1.56 in	2.00 x 1.00 x 0.75 in	60 x 60 x 30 mm

Surface Acoustic Wave Crystal Oscillators (SAWs)



Product Line	QT625S	QT725S
Frequency	400MHz - 1.3GHz	
Stability / Absolute Pull Range (APR)	-200 to 50 ppm	±20 ppm
Temperature Range	-40°C to 85°C	
Radiation	300kRad(Si) TID	
SEL (min)	Immune	
Phase Noise (typ)	-135dBc/Hz, 10kHz offset -168dBc/Hz, 1MHz offset	
Supply Voltage (Vdc)	3.3, 5.0, 12	
Output	Sine Wave	
Screening	MIL-PRF-55310, Level S or MIL-PRF-38534, Class K	
Size	0.625 x 0.625 in	
Special Note		Voltage Controlled SAW Oscillator