



## High Reliability/QPL

Package		MIL-PRF 55310	Size W x L x H inches (mm)	Package Type	Temperature Range	Initial Accuracy (ppm)	Supply Voltage	Frequency Range	
								QPL	High Reliability
	QT10T	/8	.887 x .54 x .20 max. (22.53 x 13.72 x 5.08 max.)	DIP-14 TTL (14 Pin)	-55°C to +125°C	±15	5 ±0.25Vdc	50Hz to 50MHz	0.01Hz to 200MHz
	QT1T	/9	.410 x .410 x .30 max. (10.41 x 10.41 x 7.62 max.)	TO TTL (8 Pin)	-55°C to +125°C	±15 to ±25	5Vdc ±10%	400kHz to 60MHz	244Hz to 125MHz
	QT10C	/11	.887 x .54 x .20 max. (22.53 x 13.72 x 5.08 max.)	DIP-14 CMOS (14 Pin)	-55°C to +125°C	±15	10 to +15Vdc	0.05Hz to 10MHz	0.01Hz to 200MHz
	QT3C	/13	.610 x .610 x .350 max. (15.49 x 15.49 x 8.89 max.)	TO CMOS (8 Pin)	-55°C to +125°C	±25	10 to +15Vdc	300Hz to 10MHz	244Hz to 85MHz
	QT4T	/14	.887 x .54 x .20 max. (22.53 x 13.72 x 5.08 max.)	DIP-14 TTL (14 Pin)	-55°C to +125°C	±15	5 ±0.5Vdc	0.1Hz to 25MHz	0.01Hz to 200MHz
	QT10C	/15	.887 x .54 x .20 max. (22.53 x 13.72 x 5.08 max.)	DIP-14 CMOS (14 Pin)	-55°C to +125°C	±15	6.75 to +15Vdc	0.01Hz to 10MHz	0.01Hz to 200MHz
	QT6T	/16	.887 x .54 x .20 max. (22.53 x 13.72 x 5.08 max.)	DIP-14 TTL (14 Pin)	-55°C to +125°C	±15 to ±25	5Vdc ±10%	0.1Hz to 80MHz	0.01Hz to 200MHz
	QT6T + Gate	/17	.887 x .54 x .20 max. (22.53 x 13.72 x 5.08 max.)	DIP-14 TTL (14 Pin)	-55°C to +125°C	±10 to ±25	5Vdc ±10%	250kHz to 50MHz	0.01Hz to 200MHz
	QT6C	/18	.887 x .54 x .20 max. (22.53 x 13.72 x 5.08 max.)	DIP-14 CMOS (14 Pin)	-55°C to +125°C	±15 to ±25	5 to 15Vdc ±10%	0.01Hz to 15MHz	0.01Hz to 200MHz
	QT66T QT66HCD	/19 /29	.480 x .480 x .085 max. (12.19 x 12.19 x 2.16 max.)	LCC TTL, HCMOS (40 Pin)	-55°C to +125°C	±15 to ±25	5Vdc ±10%	1MHz to 60MHz	732.4Hz to 125MHz
	QT6HC	/26A	.887 x .54 x .20 max. (22.53 x 13.72 x 5.08 max.)	DIP-14 CMOS (14 Pin)	-55°C to +125°C	±15 to ±25	5Vdc ±10%	0.01MHz to 65MHz	0.01Hz to 200MHz
	QT41HC	/26B	.815 x .515 x .20 max. (20.70 x 13.08 x 5.08 max.)	DIP-14 HCMOS (4 Pin)	-55°C to +125°C	±15 to ±25	5Vdc ±10%	0.01MHz to 65MHz	0.01Hz to 200MHz
	QT78HCD QT78TD QT78LD	/27 /28 /30	.560 x .360 x .188 max. (14.22 x 9.14 x 4.78 max.)	SMD TTL, CMOS (4 Pin)	-55°C to +125°C	±15 to ±25	3.3, 5Vdc ±10%	1MHz to 85MHz	15kHz to 150MHz
	QT88	/33, /34, /35, /36	.355 x .295 x .170 max. (9.02 x 7.49 x 4.32 max.)	SMD CMOS (4 Pin)	-55°C to +125°C	±15 to ±25	1.8, 2.5, 3.3, 5.0Vdc ±10%	1MHz to 100MHz	15kHz to 160MHz
	QT89 QT90 QT92	/37, /38, /39, /40	.355 x .295 x .190 max. (9.02 x 7.49 x 4.83 max.)	SMD CMOS, TTL (4 Pin)	-55°C to +125°C	±15 to ±25	1.8, 2.5, 3.3, 5.0Vdc ±10%	500kHz to 85MHz	15kHz to 160MHz
	QT2010 MCXO	N/A	1.00 x 1.00 x .500 max. (25.4 x 25.4 x 12.7 max.)	CMOS Sine Wave	-55°C to +105°C	±5 to ±30 ppb	3.3Vdc ±5%	N/A	5 to 100MHz

Packages from our High Reliability catalog can be procured for Space as our 100kRad (Si) Radiation Tolerant B+ products (except MCXO).



## Ultra Miniature XO

Package		Size W x L x H inches (mm)	Package Type	Temperature Range	Temperature Stability	Supply Voltage	Frequency Range
	QTCC570	.276 x .197 x .079 (7.0 x 5.0 x 2.0)	5 x 7mm SMD CMOS (4pin)	-20/70, -40/85, -40/125, -55/105, -55/125°C	±25ppm to ±100ppm	1.8 to 5Vdc	1.544MHz to 190MHz
	QTCC350	.197 x .126 x .055 (5.0 x 3.2 x 1.4)	3.2 x 5mm SMD CMOS (4pin)	-20/70, -40/85, -40/125, -55/105, -55/125°C	±25ppm to ±100ppm	1.8 to 5Vdc	32kHz to 125MHz
	QTCC230	.126 x .098 x .047 (3.2 x 2.5 x 1.2)	2.5 x 3.2mm SMD CMOS (4pin)	-20/70, -40/85, -40/125, -55/105, -55/125°C	±25ppm to ±100ppm	1.8 to 3.3Vdc	625kHz to 125MHz
	QTCC576	.276 x .197 x .079 (7.0 x 5.0 x 2.0)	5 x 7mm SMD LVPECL, LVDS (6pin)	-20/70, -40/85°C	±25ppm to ±100ppm	2.5 or 3.3Vdc	25MHz to 212MHz
	QTCC356	.197 x .126 x .055 (5.0 x 3.2 x 1.4)	3.2 x 5mm SMD LVPECL, LVDS (6pin)	-20/70, -40/85°C	±25ppm to ±100ppm	2.5 or 3.3Vdc	25MHz to 212MHz

## Ultra Miniature TCXO

	QTCT570	.276 x .197 x .079 (7.0 x 5.0 x 2.0)	5 x 7mm SMD CMOS, CLIPPED SINE (4pin)	0/55, -20/70, -30/85, -40/85°C	±0.5ppm to ±2.5ppm	2.8, 3.0, 3.3Vdc	5MHz to 52MHz
	QTCT350	.197 x .126 x .043 (5.0 x 3.2 x 1.1)	3.2 x 5.0mm SMD CMOS, CLIPPED SINE (4pin)	0/55, -20/70, -30/85, -40/85°C	±0.5ppm to ±2.5ppm	2.8, 3.0, 3.3Vdc	10MHz to 52MHz
	QTCT230	.126 x .098 x .047 (3.2 x 2.5 x 1.2)	2.5 x 3.2mm SMD CMOS, CLIPPED SINE (4pin)	0/55, -20/70, -30/85, -40/85°C	±0.5ppm to ±2.5ppm	2.8, 3.0, 3.3Vdc	10MHz to 45MHz
	QTCT220	.098 x .079 x .028 (2.5 x 2.0 x 0.7)	2.0 x 2.5mm SMD CLIPPED SINE (4pin)	-20/70°C -40/85°C	±0.5ppm to ±2.5ppm	2.8, 3.0, 3.3Vdc	10MHz to 52MHz
	QTCT236	.126 x .098 x .063 (3.2 x 2.5 x 1.6)	2.5 x 3.2mm SMD CMOS, LVDS, LVPECL	-20/70°C -30/85°C -40/85°C	±0.5ppm to ±2.5ppm	2.5 or 3.3Vdc	10MHz to 1.5GHz

## Ultra Miniature VCXO

	QTCV576	.276 x .197 x .059 (7.0 x 5.0 x 1.5)	5 x 7mm SMD CMOS, LVPECL (6pin)	-10/70, -40/85°C	±30ppm APR to ±100ppm APR	3.3, 5.0Vdc	1MHz to 156.250MHz
	QTCV356	.197 x .126 x .047 (5.0 x 3.2 x 1.2)	3.2 x 5.0mm SMD CMOS, LVPECL (6pin)	-10/70, -40/85°C	±30ppm APR to ±100ppm APR	3.3, 5.0Vdc	1MHz to 156.250MHz

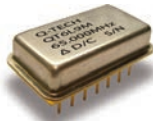
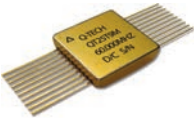
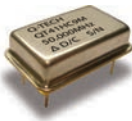
## Ultra Miniature High Temperature XO

	QTCH570	.276 x .197 x .079 (7.0 x 5.0 x 2.0)	5 x 7mm SMD CMOS (4pin)	-20/185, -40/185, -55/185, 0/200, -40/200, -55/200	±100ppm to ±250ppm	1.8, 2.5, 3.3Vdc	1MHz to 48MHz 32.768kHz
	QTCH350	.197 x .126 x .055 (5.0 x 3.2 x 1.4)	3.2 x 5mm SMD CMOS (4pin)	-20/185, -40/185, -55/185, 0/200, -40/200, -55/200	±100ppm to ±250ppm	1.8, 2.5, 3.3Vdc	1MHz to 48MHz 32.768kHz
	QTCH230	.126 x .098 x .047 (3.2 x 2.5 x 1.2)	2.5 x 3.2mm SMD CMOS (4pin)	-20/185, -40/185, -55/185, 0/200, -40/200, -55/200	±100ppm to ±250ppm	1.8, 2.5, 3.3Vdc	1MHz to 48MHz 32.768kHz



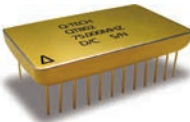

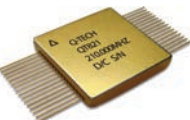
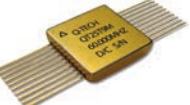
## SPACE XO

Fully Space Qualified • Radiation Tolerant to 100kRad (Si) TID

Package		Size W x L x H inches (mm)	Package Type	Output	Supply Voltage	Frequency Range
	QT606C	.880 x .505 x .200 (22.35 x 12.83 x 5.08)	DIP-14 (14 Pin)	CMOS	5Vdc	1MHz to 100MHz
	QT606L	.880 x .505 x .200 (22.35 x 12.83 x 5.08)	DIP-14 (14 Pin)	CMOS	3.3Vdc	1MHz to 100MHz
	QT625C	.625 x .625 x .150 (15.88 x 15.88 x 3.81)	Flat Pack (20 Pin)	CMOS	5Vdc	1MHz to 100MHz
	QT625L	.625 x .625 x .150 (15.88 x 15.88 x 3.81)	Flat Pack (20 Pin)	CMOS	3.3Vdc	1MHz to 100MHz
	QT641C	.800 x .505 x .200 (20.32 x 12.83 x 5.08)	DIP-14 (4 Pin)	CMOS	5Vdc	1MHz to 100MHz
	QT641L	.800 x .505 x .200 (20.32 x 12.83 x 5.08)	DIP-14 (4 Pin)	CMOS	3.3Vdc	1MHz to 100MHz

## SPACE TCXO & VCXO

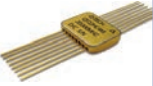





Radiation Tolerant to 100kRad (Si) TID • TCXO Stability as Low as ±0.5ppm

Package			Size W x L x H inches (mm)	Package Type	Output	Supply Voltage	Frequency Range	
TCXO	VCXO	TCXO					VCXO	
	QT801	QTV701	1.280 x .790 x .300 (32.51 x 20.07 x 7.62)	Double Dip (24 Pin)	CMOS	5Vdc	3MHz to 90MHz	2MHz to 90MHz
	QT802	QTV702				3.3Vdc		
	QT804	QTV704			Sine Wave	5Vdc	10MHz to 150MHz	10MHz to 150MHz
	QT805	QTV705				12Vdc		
	QT806	QTV706				15Vdc		
	QT811	QTV711	.975 x 1.275 x .210 (24.77 x 32.39 x 5.33)	Flat Pack (24 Pin)	CMOS	5Vdc	3MHz to 90MHz	2MHz to 90MHz
	QT812	QTV712				3.3Vdc		
	QT814	QTV714		Flat Pack (24 Pin)	Sine Wave	5Vdc	10MHz to 350MHz	10MHz to 350MHz
	QT815	QTV715				12Vdc		
	QT816	QTV716				15Vdc		
	QT821	QTV721	1.015 x 1.015 x .200 (25.78 x 25.78 x 5.08)	Flat Pack (32 Pin)	CMOS	5Vdc	3MHz to 90MHz	2MHz to 90MHz
	QT822	QTV722				3.3Vdc		
	QT824	QTV724		Flat Pack (32 Pin)	Sine Wave	5Vdc	10 MHz to 350MHz	10MHz to 350MHz
	QT825	QTV725				12Vdc		
	QT826	QTV726				15Vdc		
	N/A	QT725C	.625 x .625 x .150 (15.88 x 15.88 x 3.81)	Flat Pack (20 Pin)	CMOS	5Vdc	N/A	3MHz to 100MHz



## SPACE Class B+ XO

Radiation Tolerant to 100kRad (Si) TID


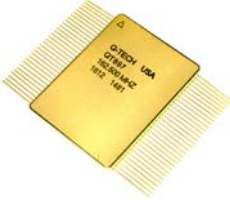
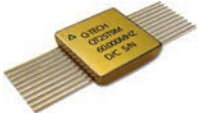
Package	Size W x L x H inches (mm)	Package Type	RHA Total Dose	Supply Voltage	Frequency Range	
 QT122 QT222 QT322	.375 x .500 x .120 (9.53 x 12.7 x 3.05)	Flat Pack (16 Pin) CMOS, TTL, LVDS	100 kRad (Si)	1.8, 2.5, 3.3, 5.0Vdc	15kHz to 250MHz	
 QT128 QT228 QT328	.375 x .500 x .120 (9.53 x 12.7 x 3.05)	Flat Pack (16 Pin) CMOS, TTL, LVDS	100 kRad (Si)	1.8, 2.5, 3.3, 5.0Vdc	15kHz to 250MHz	
 QT178 QT278 QT378	.550 x .350 x .170 (13.97 x 8.89 x 4.32)	SMD J-LEAD (4 Pin) CMOS, TTL	100 kRad (Si)	1.8, 2.5, 3.3, 5.0Vdc	15kHz to 162.5MHz	
 QT188 QT288 QT388	.350 x .290 x .170 (8.89 x 7.37 x 4.32)	SMD J-LEAD (4 Pin) CMOS, TTL	100 kRad (Si)	1.8, 2.5, 3.3, 5.0Vdc	450kHz to 162.5MHz	
 QT189 QT289 QT389	.350 x .290 x .130 (8.89 x 7.37 x 3.30)	THRU-HOLE (4 Pin) CMOS, TTL	100 kRad (Si)	1.8, 2.5, 3.3, 5.0Vdc	450kHz to 162.5MHz	
 QT190 QT290 QT390	.350 x .290 x .190 (8.89 x 7.37 x 4.83)	GULL WING (4 Pin) CMOS, TTL	100 kRad (Si)	1.8, 2.5, 3.3, 5.0Vdc	450kHz to 162.5MHz	
 QT192 QT292 QT392	.350 x .290 x .190 (8.89 x 7.37 x 4.83)	FORMED LEAD (4 Pin) CMOS, TTL	100 kRad (Si)	1.8, 2.5, 3.3, 5.0Vdc	450kHz to 162.5MHz	
 QT193 QT293 QT393	.350 x .290 x .190 (8.89 x 7.37 x 4.83)	FORMED LEAD (4 Pin) CMOS, LVDS, LVPECL	100 kRad (Si)	1.8, 2.5, 3.3, 5.0Vdc	450kHz to 250MHz	
	.276 x .197 x .100 (7.0 x 5.0 x 2.54)	QT181 QT281 QT381	THRU-HOLE (4 Pin) CMOS, TTL	100 kRad (Si)	1.8, 2.5, 3.3, 5.0Vdc	500kHz to 162.5MHz
		QT182 QT282 QT382	FORMED LEAD (4 Pin) CMOS, TTL	100 kRad (Si)	1.8, 2.5, 3.3, 5.0Vdc	500kHz to 162.5MHz
		QT183 QT283 QT383	GULL WING (4 Pin) CMOS, TTL	100 kRad (Si)	1.8, 2.5, 3.3, 5.0Vdc	500kHz to 162.5MHz
		QT184 QT284 QT384	SMD (4 Pin) CMOS, TTL	100 kRad (Si)	1.8, 2.5, 3.3, 5.0Vdc	500kHz to 162.5MHz
	4-Point Mount	QT186 QT286 QT386	THRU-HOLE (6 Pin) LVDS, LVPECL	100 kRad (Si)	2.5, 3.3Vdc	80MHz to 162.5MHz
		QT187 QT287 QT387	FORMED LEAD (6 Pin) LVDS, LVPECL	100 kRad (Si)	2.5, 3.3Vdc	80MHz to 162.5MHz
		QT180 QT280 QT380	GULL WING (6 Pin) LVDS, LVPECL	100 kRad (Si)	2.5, 3.3Vdc	80MHz to 162.5MHz
		QT185 QT285 QT385	SMD (6 Pin) LVDS, LVPECL	100 kRad (Si)	2.5, 3.3Vdc	80MHz to 162.5MHz







## SPACE Multiple Output XO

Fully Space Qualified • Radiation Tolerant to 100kRad (Si) TID

Package		Size W x L x H inches (mm)	Package Type	Output	Supply Voltage	Frequency Range
	QT6251LW QT6271LW	.625 x .625 x .150 (15.88 x 15.88 x 3.81)	Flat Pack (20 Pin)  QT627 is Lead Formed	LVDS 1 Pair	3.3Vdc	15MHz to 200MHz
	QT6252LW QT6272LW			LVDS 2 Pairs	3.3Vdc	15MHz to 200MHz
	QT6253LW QT6273LW			LVDS 3 Pairs	3.3Vdc	15MHz to 200MHz
	QT6254LW QT6274LW			LVDS 4 Pairs	3.3Vdc	15MHz to 200MHz
	QT6976LW	1.250 x 1.648 x .200 (31.75 x 41.87 x 5.08)	Flat Pack (62 Pin)	LVDS 6 Pairs	3.3Vdc	15MHz to 200MHz
	QT6978LW			LVDS 8 Pairs	3.3Vdc	15MHz to 200MHz
	QT6972LW			LVDS 12 Pairs	3.3Vdc	15MHz to 200MHz
	QT6251L/QT6271L QT6251N/QT6271N	.625 x .625 x .150 (15.88 x 15.88 x 3.81)	Flat Pack (20 Pin)  QT627 is Lead Formed	CMOS 1 Output	3.3Vdc 2.5Vdc	20MHz to 200MHz 20MHz to 133MHz
	QT6252L/QT6272L QT6252N/QT6272N			CMOS 2 Outputs	3.3Vdc 2.5Vdc	20MHz to 200MHz 20MHz to 133MHz
	QT6253L/QT6273L QT6253N/QT6273N			CMOS 3 Outputs	3.3Vdc 2.5Vdc	20MHz to 200MHz 20MHz to 133MHz
	QT6254L/QT6274L QT6254N/QT6274N			CMOS 4 Outputs	3.3Vdc 2.5Vdc	20MHz to 200MHz 20MHz to 133MHz

## SPACE OCXO


Radiation Tolerant • Low Aging • Low Phase Noise

Package		Size W x L x H inches (mm)	Vibration Sensitivity	Aging	Supply Voltage	Frequency Range
	QT4100	2.00 x 2.55 x 1.55 (50.8 x 64.8 x 39.4)	±1 ppb / g	±1ppb / day ±1.5ppm/ 15 years	3.3 to 15Vdc	1MHz to 125MHz Sine Wave, CMOS
	QT4200	2.00 x 1.00 x 0.75 (50.8 x 25.4 x 19.1)	±1 ppb / g	±1ppb / day ±1.5ppm/ 15 years	5, 12, 15Vdc	1MHz to 125MHz Sine Wave, CMOS

**Q-Tech's High Stability Oven Controlled Crystal Oscillators (OCXO) are designed to withstand radiation levels up to 100kRad (Si) (total dose), high shock and vibration with very low phase noise, and the Low G-Sensitivity Doubly-Rotated Crystals utilized in the designs guarantee 1PPB/G or better. Please contact factory for higher level of radiation hardness or custom drawing requirements.**

## SPACE MCXO

OCXO Stability and Aging • Very Low Power Consumption • Fast Warm Up





Package		Size W x L x H inches (mm)	Vibration Sensitivity	Aging	Supply Voltage	DC Power	Frequency Range
	QT2020	2.00 x 1.00 x 0.33 (50.8 x 25.4 x 8.38)	±1ppb / g	±1ppb / day ±1.5ppm/ 20 years	3.3Vdc	90mW max	5MHz to 100MHz Sine Wave, CMOS

**Q-Tech's microcomputer compensated crystal oscillator, MCXO, uses a high stability overtone SC-cut crystal with microprocessor controlled compensation. The self-temperature sensing resonator, using a dual-mode oscillator, virtually eliminates thermometry related errors. As a result, all basic TCXO and OCXO limitations are overcome or significantly reduced in the MCXO.**



## New Space XO

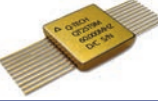
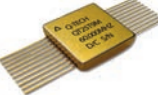
Low Earth Orbit (LEO) Oscillators • Radiation Tolerant up to 50kRad (Si) TID

Package	Size W x L x H inches (mm)	Package Type	RHA Total Dose	Supply Voltage	Frequency Range
 QT780 to QT787	.276 x .197 x .100 (7.0 x 5.0 x 2.54)	THRU-HOLE FORMED LEAD GULL WING SMD (4 Pin / 6 Pin) CMOS & LVDS	50 kRad (Si)	1.8, 2.5, 3.3, 5.0Vdc	230kHz to 162.5MHz
 QT788 to QT793	.350 x .290 x .190 (8.89 x 7.37 x 4.83)	THRU-HOLE FORMED LEAD GULL WING SMD (4 Pin / 6 Pin) CMOS & LVDS	50 kRad (Si)	1.8, 2.5, 3.3, 5.0Vdc	230kHz to 162.5MHz
 QT723	.126 x .098 x .047 (3.2 x 2.5 x 1.2)	4 PAD SMD CMOS	50 kRad (Si)	1.8, 2.5, 3.3Vdc	1.5MHz to 133MHz
 QT735	.197 x .126 x .055 (5.0 x 3.2 x 1.4)	4 PAD SMD, CMOS 6 PAD SMD, LVDS/LVPECL	50 kRad (Si)	1.8, 2.5, 3.3Vdc 2.5, 3.3Vdc	1MHz to 125MHz 25MHz to 250MHz

## High Frequency Oscillators

Radiation Tolerant to 100kRad (Si) TID where applicable

## SPACE SAW Oscillators

Package	Size W x L x H inches (mm)	Package Type	Vibration Sensitivity	Supply Voltage	Frequency Range
 QT625S SO	.625 x .625 x .150 (15.88 x 15.88 x 3.81)	Flat Pack Sine Wave (20 Pin)	±2 ppb /g	3.3 & 5Vdc	400MHz to 1.3GHz
 QT725S VCISO	.625 x .625 x .150 (15.88 x 15.88 x 3.81)	Flat Pack Sine wave (20 Pin)	±2 ppb /g	3.3 & 5Vdc	400MHz to 1.3GHz

**High Reliability, Space approved SAWs made by Q-Tech feature ultra-low phase noise and can be used to clock an FPGA or phase lock to a Master Clock for multiplication up to microwave frequencies with much lower phase noise and jitter than alternative techniques.**










## Lamb Wave Oscillators

**High frequency oscillators with improved stability over temperature performance (when compared to SAW oscillators) are currently under development for high reliability military and space applications. Lamb Wave Oscillators will provide the next generation of high frequency clocks 500MHz ~ 1GHz with excellent phase noise and industry leading jitter performance. Contact factory for additional information.**








## Extreme High Temperature

More High Temperature Options Available in our Miniature Oscillator Packages

Package	Size W x L x H inches (mm)	Package Type	Temperature Range	Temperature Stability	Supply Voltage	Frequency Range
 QT1	.360 x .360 x .260 (9.14 x 9.14 x 6.60)	TO-5 CMOS, TTL, (8 Pin)	-55°C to +200°C	±40ppm to ±250ppm	3.3 to 15Vdc	10kHz to 85MHz
 QT6	.880 x .505 x .200 (22.35 x 12.83 x 5.08)	DIP-14 CMOS, TTL, (14 Pin)	Hi Temp -55°C to +200°C Ex Hi Temp -55°C to +225°C	±40ppm to ±250ppm ±350ppm	1.8 to 15Vdc 3.3 to 5Vdc	1Hz to 110MHz 500kHz to 45MHz
 QT41 QT42	.800 x .505 x .200 (20.32 x 12.83 x 5.08)	DIP-14 CMOS, TTL, (4 Pin)	Hi Temp -55°C to +200°C Ex Hi Temp -55°C to +225°C	±40ppm to ±250ppm ±350ppm	1.8 to 15Vdc 3.3 to 5Vdc	1Hz to 110MHz 500kHz to 45MHz
 QT50	.505 x .505 x .200 (12.83 x 12.83 x 5.08)	DIP-8 CMOS, TTL, (4 Pin)	Hi Temp -55°C to +200°C Ex Hi Temp -55°C to +225°C	±40ppm to ±250ppm ±350ppm	1.8 to 15Vdc 3.3 to 5Vdc	1Hz to 85MHz 500kHz to 27MHz
 QT78	.550 x .350 x .170 (13.97 x 8.89 x 4.32) J-LEAD	SMD CMOS, TTL, (4 Pin)	-55°C to +225°C	±40ppm to ±250ppm	3.3 to 5Vdc	15kHz to 85MHz
 QT88	.350 x .290 x .170 (8.89 x 7.37 x 4.32) J-LEAD	SMD CMOS, TTL, (4 Pin)	-55°C to +225°C	±40ppm to ±250ppm	3.3 to 5Vdc	15kHz to 85MHz
 QT89	.350 x .290 x .130 (8.89 x 7.37 x 3.30) THRU-HOLE	SMD CMOS, TTL, (4 Pin)	-55°C to +225°C	±40ppm to ±250ppm	3.3 to 5Vdc	15kHz to 85MHz
 QT90 QT92	.350 x .290 x .190 (8.89 x 7.37 x 4.83) GULL WING	SMD CMOS, TTL, (4 Pin)	-55°C to +225°C	±40ppm to ±250ppm	3.3 to 5Vdc	15kHz to 85MHz
 QT81 to QT84 QTCH570	.276 x .197 x .100 (7.0 x 5.0 x 2.54)	7 x 5mm SMD CMOS, TTL, (4 Pin)	-55°C to +225°C	±40ppm to ±350ppm	2.5 to 5Vdc	250kHz to 100MHz

## High Temperature Real Time Clock

Package	Size W x L x H inches (mm)	Package Type	Temperature Range	Temperature Stability	Supply Voltage	Supply Current (No Load)	Frequency Range
 QT581 QT582 QT583	.276 x .197 x .100 (7.0 x 5.0 x 2.54)	7 x 5mm Miniature SMD CMOS (4 Pin)	-55°C to +200°C	±40ppm to ±250ppm	2.5 & 3.3Vdc	0.7mA max.	32.768kHz
 QT584	.276 x .197 x .100 (7.0 x 5.0 x 2.54)	7 x 5mm Miniature SMD CMOS (4 Pad)	-55°C to +200°C	±40ppm to ±250ppm	2.5 & 3.3Vdc	0.7mA max.	32.768kHz
 QTCH570	.276 x .197 x .055 (7.0 x 5.0 x 1.40)	7 x 5mm Miniature SMD CMOS (4 Pad)	-55°C to +200°C	±150ppm to ±250ppm	2.5 & 3.3Vdc	70µA max.	32.768kHz
 QT588	.350 x .290 x .170 (8.89 x 7.37 x 4.32) J-LEAD	SMD CMOS (4 Pin)	-55°C to +200°C	±40ppm to ±250ppm	2.5 & 3.3Vdc	0.7mA max.	32.768kHz
 QT589 QT590 QT592	.350 x .290 x .130 (8.89 x 7.37 x 3.30) THRU-HOLE/ GULL WING	SMD CMOS (4 Pin)	-55°C to +200°C	±40ppm to ±250ppm	2.5 & 3.3Vdc	0.7mA max.	32.768kHz