

PRODUCTS FOR  
**TIME AND  
FREQUENCY  
MANAGEMENT**



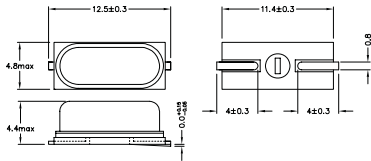
**QANTEK**  
Technology Corporation

# QUARTZ CRYSTALS METAL CAN PACKAGES



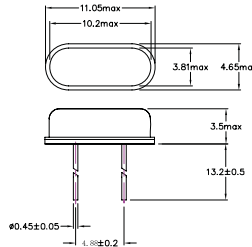
## SUMMARY SPECIFICATIONS

### QCS Series HC-49/U-S SMD 2-Pad



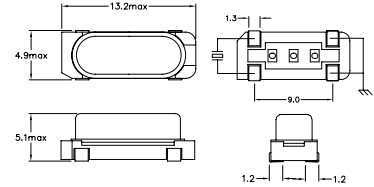
Freq. Range: 3.200 to 70.000MHz  
 Tolerance:  $\pm 10$  to  $\pm 30$ ppm at 25°C  
 Stability:  $\pm 10$  to  $\pm 100$ ppm  
 Operating Temp.: -20 to 70°C • -40 to +85°C  
 Load Capacitance: 10 to 32pF  
 Aging per Year:  $\pm 3$ ppm max.  
 Custom Specification on request.

### QCL Series HC-49/U-S (short)



Freq. Range: 3.200 to 70.000MHz  
 Tolerance:  $\pm 10$  to  $\pm 30$ ppm at 25°C  
 Stability:  $\pm 10$  to  $\pm 100$ ppm  
 Operating Temp.: -20 to 70°C • -40 to +85°C  
 Load Capacitance: 10 to 32pF  
 Aging per Year:  $\pm 3$ ppm max.  
 Custom Specification on request.

### QC4 Series HC-49/U-S SMD 4-Pad

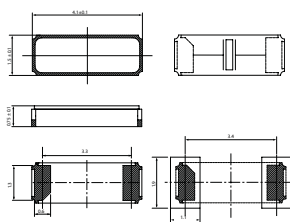


Freq. Range: 3.200 to 70.000MHz  
 Tolerance:  $\pm 10$  to  $\pm 30$ ppm at 25°C  
 Stability:  $\pm 10$  to  $\pm 100$ ppm  
 Operating Temp.: -20 to 70°C • -40 to +85°C  
 Load Capacitance: 10 to 32pF  
 Aging per Year:  $\pm 3$ ppm max.  
 Custom Specification on request.

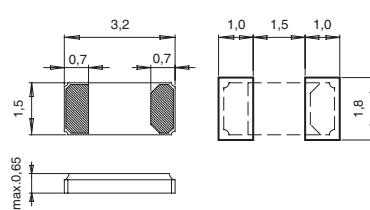
# TUNING FORK CRYSTALS CERAMIC & PLASTIC PACKAGES

## SUMMARY SPECIFICATIONS

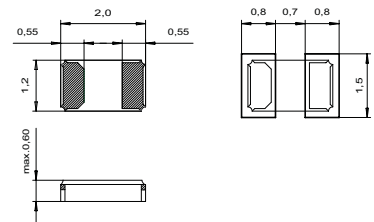
### QTC4 Series 1.5x4.1 SMD



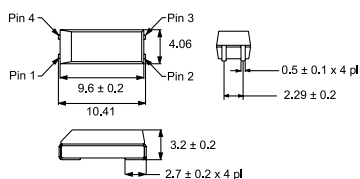
### QTC3 Series 1.5x3.2 SMD



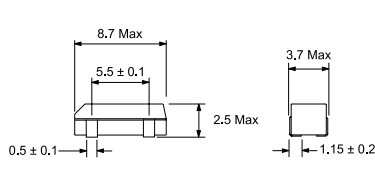
### QTC2 Series 1.2x2.0 SMD



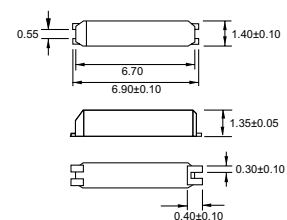
### QTP9 Series 4.0x9.6 Plastic SMD



### QTP8 Series 3.8x8.7 Plastic SMD



### QTP7 Series 1.4x6.9 Plastic SMD



Freq. Range: 32.768kHz • Tolerance:  $\pm 10$ ppm,  $\pm 20$ ppm,  $\pm 30$ ppm at 25°C • Stability: Inverse Parabolic  
 Operating Temp.: -40 to +85°C • Load Capacitance: 6pF, 7pF, 9pF, 12.5pF • Aging per Year:  $\pm 3$ ppm max.

Custom Specification on request.

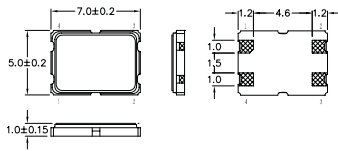
# QUARTZ CRYSTALS CERAMIC PACKAGES



## SUMMARY SPECIFICATIONS

### QC7A Series

5x7 4-Pad SMD

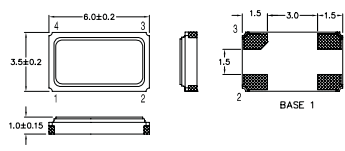


Also available in 2pad version (QC7B)  
but not recommended for new design

Freq. Range: 6.000 to 150.000MHz  
Tolerance:  $\pm 10$  to  $\pm 30$ ppm at 25°C  
Stability:  $\pm 10$  to  $\pm 100$ ppm  
Operating Temp.: -20 to 70°C • -40 to +105°C  
-40 to 85°C • -40 to +125°C  
Load Capacitance: 10 to 32pF  
Aging per Year:  $\pm 3$ ppm max.  
Custom Specification on request.

### QC6A Series

3.5x6.0 4-Pad SMD

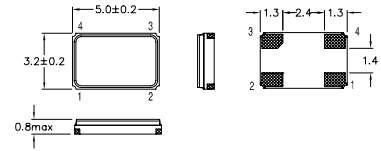


Also available in 2pad version (QC6B)  
but not recommended for new design

Freq. Range: 8.000 to 150.000MHz  
Tolerance:  $\pm 10$  to  $\pm 30$ ppm at 25°C  
Stability:  $\pm 10$  to  $\pm 100$ ppm  
Operating Temp.: -20 to 70°C • -40 to +105°C  
-40 to 85°C • -40 to +125°C  
Load Capacitance: 10 to 32pF  
Aging per Year:  $\pm 3$ ppm max.  
Custom Specification on request.

### QC5A Series

3.2x5.0 4-Pad SMD

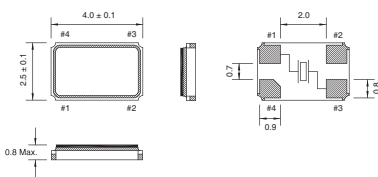


Also available in 2pad version (QC5B)  
but not recommended for new design

Freq. Range: 8.000 to 160.000MHz  
Tolerance:  $\pm 10$  to  $\pm 30$ ppm at 25°C  
Stability:  $\pm 10$  to  $\pm 100$ ppm  
Operating Temp.: -20 to 70°C • -40 to +105°C  
-40 to 85°C • -40 to +125°C  
Load Capacitance: 10 to 32pF  
Aging per Year:  $\pm 3$ ppm max.  
Custom Specification on request.

### QC4A Series

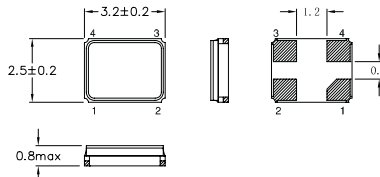
2.5x4.0 4-Pad SMD



Freq. Range: 12.000 to 52.000MHz  
Tolerance:  $\pm 10$  to  $\pm 30$ ppm at 25°C  
Stability:  $\pm 10$  to  $\pm 100$ ppm  
Operating Temp.: -20 to 70°C • -40 to +85°C  
Load Capacitance: 10 to 32pF  
Aging per Year:  $\pm 3$ ppm max.  
Custom Specification on request.

### QC32 Series

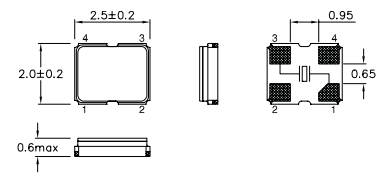
2.5x3.2 4-Pad SMD



Freq. Range: 10.000 to 60.000MHz  
Tolerance:  $\pm 10$  to  $\pm 100$ ppm at 25°C  
Stability:  $\pm 10$  to  $\pm 100$ ppm  
Operating Temp.: -20 to 70°C • -40 to +105°C  
-40 to 85°C • -40 to +125°C  
Load Capacitance: 7 to 32pF  
Aging per Year:  $\pm 3$ ppm max.  
Custom Specification on request.

### QC25 Series

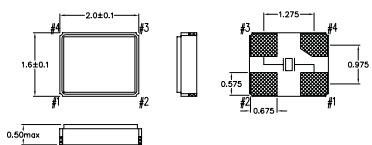
2.0x2.5 4-Pad SMD



Freq. Range: 16.000 to 50.000MHz  
Tolerance:  $\pm 10$  to  $\pm 30$ ppm at 25°C  
Stability:  $\pm 10$  to  $\pm 100$ ppm  
Operating Temp.: -20 to 70°C • -40 to +105°C  
-40 to 85°C • -40 to +125°C  
Load Capacitance: 7 to 32pF  
Aging per Year:  $\pm 3$ ppm max.  
Custom Specification on request.

### QC20 Series

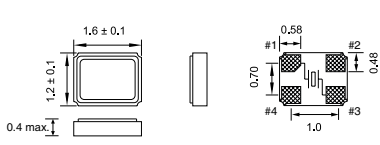
1.6x2.0 4-Pad SMD



Freq. Range: 20.000 to 52.000MHz  
Tolerance:  $\pm 10$  to  $\pm 30$ ppm at 25°C  
Stability:  $\pm 10$  to  $\pm 100$ ppm  
Operating Temp.: -20 to 70°C • -40 to +85°C  
Load Capacitance: 7 to 32pF  
Aging per Year:  $\pm 3$ ppm max.  
Custom Specification on request.

### QC16 Series

1.2x1.6 4-Pad SMD



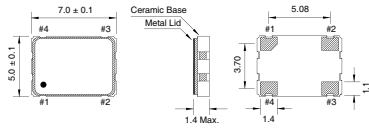
Freq. Range: 24.000 to 40.000MHz  
Tolerance:  $\pm 15$  to  $\pm 30$ ppm at 25°C  
Stability:  $\pm 15$  to  $\pm 50$ ppm  
Operating Temp.: -20 to 70°C • -40 to 85°C  
Load Capacitance: 7 to 32pF  
Aging per Year:  $\pm 3$ ppm max.  
Custom Specification on request.

# CLOCK OSCILLATORS CERAMIC PACKAGES



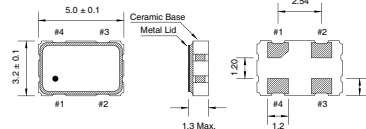
## SUMMARY SPECIFICATIONS

### QX7 Series 5x7 SMD HCMOS



**Freq. Range:** 1.000 to 155.520MHz  
**Stability:** ±20 to ±100ppm  
**Supply Voltage:** 1.8Vdd ±5% • 2.5Vdd ±5%  
 3.3Vdd ±5% • 5.0Vdd ±5%  
**Output Symmetry:** 45 to 55%  
**Output Load:** 15 to 50pF max.  
**Operating Temp.:** -20 to 70°C • -40 to +105°C  
 -20 to 85°C • -40 to +125°C  
**Aging per Year:** ±5ppm max.  
 Custom Specification on request.

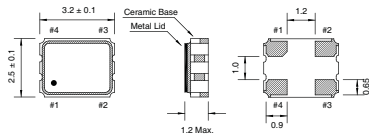
### QX5 Series 3.2x5.0 SMD HCMOS



**Freq. Range:** 1.000 to 155.520MHz  
**Stability:** ±20 to ±100ppm  
**Supply Voltage:** 1.8Vdd ±5% • 2.5Vdd ±5%  
 3.3Vdd ±5%  
**Output Symmetry:** 40 to 60% • 45 to 55%  
**Output Load:** 15pF max.  
**Operating Temp.:** -20 to 70°C • -40 to +105°C  
 -20 to 85°C • -40 to +125°C  
**Aging per Year:** ±5ppm max.  
 Custom Specification on request.

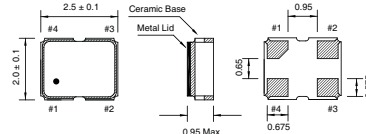
## HCMOS / TTL CLOCK OSCILLATORS

### QX3 Series 2.5x3.2 SMD HCMOS



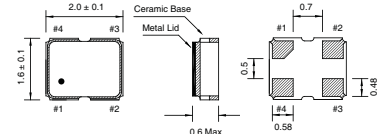
**Freq. Range:** 1.000 to 75.000MHz  
**Stability:** ±20 to ±100ppm  
**Supply Voltage:** 1.8Vdd ±5% • 2.5Vdd ±5%  
 3.3Vdd ±5%  
**Output Symmetry:** 40 to 60% • 45 to 55%  
**Output Load:** 15pF max.  
**Operating Temp.:** -20 to 70°C • -40 to +105°C  
 -20 to 85°C • -40 to +125°C  
**Aging per Year:** ±5ppm max.  
 Custom Specification on request.

### QX2 Series 2.0x2.5 SMD HCMOS



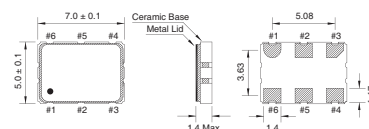
**Freq. Range:** 2.000 to 60.000MHz  
**Stability:** ±25 to ±100ppm  
**Supply Voltage:** 1.8Vdd ±5% • 2.5Vdd ±5%  
 3.3Vdd ±5%  
**Output Symmetry:** 40 to 60% • 45 to 55%  
**Output Load:** 15pF max.  
**Operating Temp.:** -20 to 70°C • -40 to +105°C  
 -20 to 85°C • -40 to +125°C  
**Aging per Year:** ±5ppm max.  
 Custom Specification on request.

### QX1 Series 1.6x2.0 SMD HCMOS



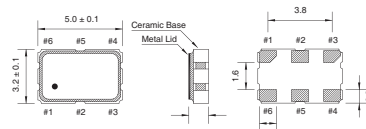
**Freq. Range:** 4.000 to 50.000MHz  
**Stability:** ±25 to ±100ppm  
**Supply Voltage:** 1.8Vdd ±5% • 2.5Vdd ±5%  
 3.3Vdd ±5%  
**Output Symmetry:** 40 to 60% • 45 to 55%  
**Output Load:** 15pF max.  
**Operating Temp.:** -20 to 70°C • -40 to +105°C  
 -20 to 85°C • -40 to +125°C  
**Aging per Year:** ±5ppm max.  
 Custom Specification on request.

### QP7 Series 5x7 SMD LVPECL QL7 Series 5x7 SMD LVDS



**Freq. Range:** 10.000 to 625.000MHz  
**Stability:** ±25 to ±100ppm  
**Supply Voltage:** 2.5Vdd ±5% • 3.3Vdd ±5%  
**Output Symmetry:** 45 to 55%  
**Operating Temp.:** -20 to 70°C • -40 to +85°C  
**Aging per Year:** ±3ppm max.  
 Custom Specification on request.

### QP5 Series 3.2x5.0 SMD LVPECL QL5 Series 3.2x5.0 SMD LVDS



**Freq. Range:** 25.000 to 160.000MHz  
**Stability:** ±25 to ±100ppm  
**Supply Voltage:** 2.5Vdd ±5% • 3.3Vdd ±5%  
**Output Symmetry:** 45 to 55%  
**Operating Temp.:** -20 to 70°C • -40 to +85°C  
**Aging per Year:** ±3ppm max.  
 Custom Specification on request.

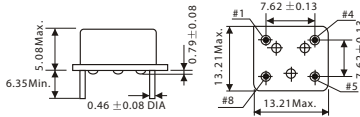
## LVDS & LVPECL CLOCK OSCILLATORS

# CLOCK OSCILLATORS METAL CAN PACKAGES



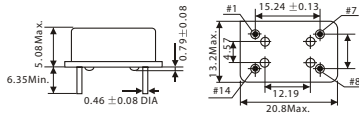
## SUMMARY SPECIFICATIONS

### QX8 Series 8 pin Dual-in-Line HCMOS



**Freq. Range:** 0.252 to 150.000MHz  
**Stability:** ±25 to ±100ppm  
**Supply Voltage:** 3.3Vdd ±5% • 5.0Vdd ±5%  
**Output Symmetry:** 40 to 60% • 45 to 55%  
**Output Load:** 15 to 50pF max.  
**Operating Temp.:** -10 to 70°C • -40 to +85°C  
**Aging per Year:** ±5ppm max.  
 Custom Specification on request.

### QX14 Series 14 pin Dual-in-Line HCMOS



**Freq. Range:** 0.252 to 150.000MHz  
**Stability:** ±25 to ±100ppm  
**Supply Voltage:** 3.3Vdd ±5% • 5.0Vdd ±5%  
**Output Symmetry:** 40 to 60% • 45 to 55%  
**Output Load:** 15 to 50pF max.  
**Operating Temp.:** -10 to 70°C • -40 to +85°C  
**Aging per Year:** ±5ppm max.  
 Custom Specification on request.

## DIP8 & DIP14 HCMOS / TTL CLOCK OSCILLATOR

Find all detailed Specifications online:  
[www.qantek.com](http://www.qantek.com)



# DIRECTIVES ROHS/ROHS II AND REACH



QANTEK Technology Corporation supports the European Union's (EU's) Directives. All QANTEK products are RoHS2 and REACH compliant and maintain their compliant status under EU RoHS2 directives 2011/65/EU and REACH Directives EC Regulation No. 1907/2006 and China RoHS Directives.

QANTEK Technology Corporation is aiming to ensure that the following substances are not intentionally included ingredients\* in the manufacturing or packaging of any of our products except where specific, active exemptions apply:

- Lead (Pb)
- Mercury (Hg)
- Cadmium (Cd)
- Hexavalent Chromium (Cr VI)
- Polybrominated Biphenyls (PBB)
- Polybrominated Diphenyl Ethers (PBDE)

Per EU RoHS2 Directives, a maximum concentration value of 0.1% by weight in homogeneous materials of Lead, Hexavalent Chromium, Mercury, Polybrominated Biphenyl (PBB) and Polybrominated Diphenyl ethers (PBDE) and of 0.01% weight in homogeneous Cadmium shall be included.

QANTEK Technology Corporation's products are REACH Compliant per the current listing of Substances of Very High Concern.

QANTEK Technology Corporation has always been an environmentally responsible company and our products have been RoHS compliant since January 2005.

Going forward, QANTEK Technology Corporation fully intends to remain compliant with all new, emerging RoHS/RoHS II and REACH Directives.

The SVHCs of REACH Candidate list is published at:

[http://echa.europa.eu/chem\\_data/authorisation\\_process/candidate\\_list\\_table\\_en.asp](http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp)

## STATEMENT NON-USE OF CONFLICT MINERALS

As a global supplier of frequency control devices, QANTEK Technology Corporation has a policy of conducting business and operating within all regulatory guidelines.

After reviewing our processes and consulting our material suppliers, the products supplied by QANTEK Technology Corporation do contain one or more of the 3T1G – Tin (Sn), Tungsten (W), Tantalum (Ta), and Gold (Au), also known to be the conflict minerals. QANTEK Technology Corporation does NOT directly

purchase any of these minerals and does not know the source from the DRC countries or its neighboring countries.

Due to the complexity of the mineral supply chain, QANTEK Technology Corporation is unable to identify the origin for the minerals used in our products. We are however, requesting our material suppliers to take reasonable due diligence in the supply chain to ensure that the minerals used are not sourced from conflict regions.

## QUALITY ZERO DEFECT

QANTEK's product line of frequency management components is widely recognized for its reliability, durability, and performance. Our products are manufactured to international standards and specifications. As a result, every QANTEK product will perform to your expectation and beyond. In addition,

we are constantly expanding and upgrading our production process to insure new technology is utilized to preserve and permanently improve product performance and integrity. Our sustained growth and extremely high level of customer retention is evidence of this commitment.



# WORLDWIDE REPRESENTATIVES



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🌐 www.ecomal.com



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🌐 www.wdi.ag

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🌐 www.alliedelec.com



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✉ sales@wdi-usa.com  
🌐 www.wdi-usa.com

## WORLDWIDE CATALOG STOCKING DISTRIBUTOR



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🌐 www.rs-components.com

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**QANTEK**

Technology Corporation

