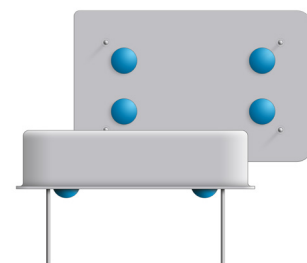


# QX14 Series

## 14 pin Dual-in-Line HCMOS Clock Oscillator

### Features

- Industry-standard 14 pin DIL package for compatibility
- Frequency range from 0.252kHz to 150MHz
- Choice of supply voltage 3.3 or 5.0 Volts DC
- Hermetically sealed package for reliability and low aging
- Optional Tristate function (Enable/Disable)



### General Specifications

|                             |                     |              |
|-----------------------------|---------------------|--------------|
| Frequency Range             | 0.252 to 150.000MHz |              |
| Output Logic                | HCMOS               |              |
| Temperature Stability*      | ±100ppm             |              |
|                             | ±50ppm              |              |
|                             | ±25ppm              |              |
| Aging per year              | ±5ppm               |              |
| Operating Temperature Range | Standard            | -10 to +70°C |
|                             | Industrial          | -40 to +85°C |
| Storage Temperature Range   | -55 to +125°C       |              |

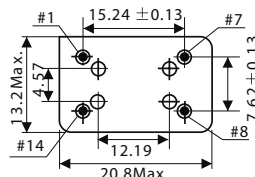
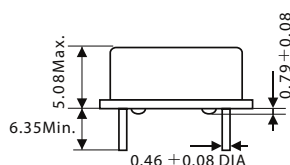
\* Frequency stability is inclusive of calibration tolerance at 25°C, frequency change due to shock & vibration, ±10% supply voltage variation and stability over temperature range.

| Pin | Connection                      |
|-----|---------------------------------|
| 1   | NC or Tristate (Enable/Disable) |
| 7   | Ground                          |
| 8   | Output                          |
| 14  | +Vdd                            |

### Electrical Specifications

|                            |                      |              |             |
|----------------------------|----------------------|--------------|-------------|
| Supply Voltage             | 3.3Vdd ±10%          |              | 5.0Vdd ±10% |
| Input Current              | 0.252 to 24.000MHz   | 5mA          | 10mA        |
|                            | 24.100 to 50.000MHz  | 10mA         | 15mA        |
|                            | 50.100 to 70.000MHz  | 25mA         | 50mA        |
|                            | 70.100 to 80.000MHz  | 25mA         | 50mA        |
|                            | 80.100 to 150.000MHz | 60mA         | 60mA        |
| Output Voltage             | Logic High (Voh)     | 90% Vdd min. |             |
|                            | Logic Low (Vol)      | 10% Vdd max. |             |
| Output Symmetry            | Standard             | 40 to 60%    |             |
|                            | Tight                | 45 to 55%    |             |
| Output Load                | Standard             | 15pF max.    |             |
|                            | Medium               | 30pF max.    |             |
|                            | Heavy                | 50pF max.    |             |
| Rise and Fall Time         | 0.252 to 24.000MHz   | 10ns max.    | 10ns max.   |
|                            | 24.100 to 50.000MHz  | 6ns max.     | 6ns max.    |
|                            | 50.100 to 70.000MHz  | 6ns max.     | 6ns max.    |
|                            | 70.100 to 80.000MHz  | 4ns max.     | 4ns max.    |
|                            | 80.100 to 150.000MHz | 4ns max.     | 4ns max.    |
| Standby Function           | Tristate (optional)  |              |             |
| Output Enable/Disable Time | 100ns max.           |              |             |
| Standby Current            | 10µA max.            |              |             |
| Start Up Time              | 10ms max.            |              |             |

### Mechanical Dimensions



Pin Connection: #1 E/D, #7 GND, #8 Output, #14 VDC Enable/Disable Function: E/D (#1) Output (#8), High (Open) Operating, Low High Impedance

### Part Numbering Guide

| Qantek Code | Package     | Option                                             | Supply Voltage         | Frequency Stability                     | Frequency                                                              | Operating Temperature Range          | Load Capacitance                    | Tight Symmetry Indicator | Packaging |
|-------------|-------------|----------------------------------------------------|------------------------|-----------------------------------------|------------------------------------------------------------------------|--------------------------------------|-------------------------------------|--------------------------|-----------|
| Q = Qantek  | X14 = DIP14 | N = not connected<br>T = Tristate (Enable/Disable) | 33 = 3.3V<br>50 = 5.0V | A = ±25ppm<br>B = ±50ppm<br>C = ±100ppm | in MHz, always 8 digits including the decimal point (f.i.e. 20.000000) | A = -10 to +70°C<br>B = -40 to +85°C | 15 = 15pF<br>30 = 30pF<br>50 = 50pF | T = 45/55                | T = Tube  |

Example: QX14T33B20.00000B15T



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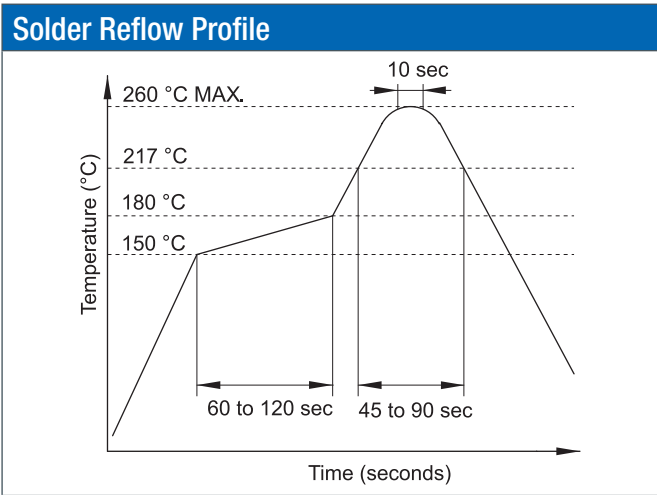
info@qantek.com

# QX14 Series

14 pin Dual-in-Line HCMOS Clock Oscillator

| Marking Code Guide                                                                                                                   |   |           |   |            |   |      |   |                   |         |
|--------------------------------------------------------------------------------------------------------------------------------------|---|-----------|---|------------|---|------|---|-------------------|---------|
| Contains frequency, Qantek manufacturing Code, production code (month and year), stability, temperature range and voltage indicator. |   |           |   |            |   |      |   |                   |         |
| Month Codes                                                                                                                          |   |           |   | Year Codes |   |      |   | Stability         |         |
| January                                                                                                                              | A | July      | G | 2010       | 0 | 2011 | 1 | ppm               | PN Code |
| February                                                                                                                             | B | August    | H | 2013       | 3 | 2014 | 4 | 25                | A       |
| March                                                                                                                                | C | September | I |            |   |      |   | 50                | B       |
| April                                                                                                                                | D | October   | J |            |   |      |   | 100               | C       |
| May                                                                                                                                  | E | November  | K |            |   |      |   | custom            | S       |
| June                                                                                                                                 | F | December  | L |            |   |      |   |                   |         |
|                                                                                                                                      |   |           |   |            |   |      |   | Temperature Range |         |
|                                                                                                                                      |   |           |   |            |   |      |   | °C                | PN Code |
|                                                                                                                                      |   |           |   |            |   |      |   | -10 to +70°C      | A       |
|                                                                                                                                      |   |           |   |            |   |      |   | -40 to +85°C      | B       |
|                                                                                                                                      |   |           |   |            |   |      |   | custom            | S       |
|                                                                                                                                      |   |           |   |            |   |      |   | Voltage           |         |
|                                                                                                                                      |   |           |   |            |   |      |   | Volt              | PN Code |
|                                                                                                                                      |   |           |   |            |   |      |   | 3.3               | 3       |
|                                                                                                                                      |   |           |   |            |   |      |   | 5.0               | 5       |
|                                                                                                                                      |   |           |   |            |   |      |   | custom            | S       |

Example: First Line: 20.000 (Frequency) Second Line: QA1BB3 (Qantek – January – 2011 – ±50ppm – -40 to +85°C – 3.3V)



### Environmental Specifications

|                  |                               |
|------------------|-------------------------------|
| Mechanical Shock | MIL-STD-202, Method 213, C    |
| Vibration        | MIL-STD-202, Method 201 & 204 |
| Thermal Cycle    | MIL-STD, Method 1010, B       |
| Gross Leak       | MIL-STD-202, Method 112       |
| Fine Leak        | MIL-STD-202, Method 112       |

All specifications are subject to change without notice.