

Clock oscillators are the most technically simple oscillator IQD offer, the package contains a quartz wafer and also the necessary circuit to make the quartz resonate. Consequently by applying the correct power supply to the device a stable output clock waveform is provided at the output pin. IQD's clock oscillator part numbers all contain the code SPXO. SPXO is an acronym for Simple Packaged Xtal Oscillator.

The electrical parameters are given on the specification to facilitate the correct circuit design. Further guidance can be found in the Application Notes chapter of this book. Our Application Support team can also provide assistance if required; please contact one of our sales offices for this support.

The limits given in the following specifications are indicative of the standard oscillator design, in the event that a specification is needed which is outside the standard oscillator designs offered please contact our Sales team.

A typical clock oscillator specification reads like this:

10.0MHz CFPS-37  
CMOS  $\pm 50$ ppm -10 to 70C 2.5V

The data in the example above is translated in the following order

- Frequency
- Model
- Output
- Frequency Stability
- Operating Temperature Range
- Supply Voltage

### Frequency

Frequency is normally specified in kilohertz (kHz) up to 999.999kHz and in megahertz (MHz) from 1.0MHz. All our computer-generated transaction documents follow this standard convention automatically.

The clock oscillator frequency should be specified to seven significant figures. If seven significant figures are not used, we assume that any figure that might follow those given may be taken as zero. Thus a frequency given as 16.6MHz will be taken as 16.60, not 16.6666.

Please contact our sales offices for details of developed frequencies.

### Model

The model incorporates information which describes output compatibility, holder style and supply voltage.

### Frequency Stability

The frequency stability of a clock oscillator includes the initial adjustment tolerance at room temperature, the tolerance over operating temperature range and the effect of supply voltage variation. This value is specified as 'parts per million' (ppm) and is typical available in the range of  $\pm 5$ ppm to  $\pm 100$ ppm.

### Operating Temperature Range

0 to 70°C  
-10 to 70°C  
-40 to 85°C  
-40 to 125°C  
-55 to 125°C

Although in general clock oscillators will continue to operate outside their normal temperature range with a degradation in frequency stability, damage can result if the temperatures reached are excessive.

### Additional Text Code

If the product is non-standard, the letter 'T' will appear at the end of the product specification. This refers to additional text on the quotation/sales order to identify the non-standard requirements.

### Packaging Code

Tape and Reel packaging is available as an option on many of the products outlined in this chapter.

Unless individual data sheets state Tape and Reel packaging, items will be Bulk packed. Please note: only complete reels are sold.

Reel = Tape and Reel  
Cutt = Cut Tape  
Bulk = Bulk pack  
Tray = Tray pack

### Outline Drawings

All dimensions on are shown in mm and are nominal unless otherwise stated.

### Marking

Where space is limited some or all of the information will be omitted/truncated at our discretion. Full product description will be found on the individual batch packaging.

### Ordering Information

See individual data sheets

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