

## Description

- The IQXT-274-6 employs an analogue IC for the oscillator and temperature compensation. The crystal is surface mounted on top of the ceramic IC carrier. The segregation of the crystal from the oscillator further improves the reliability of the product.
- Model: IQXT-274-6
- Model Issue number: 1

## Frequency Parameters

- Frequency: 19.20MHz
- Frequency Tolerance:  $\pm 1.00$ ppm
- Frequency Stability:  $\pm 0.50$ ppm
- Operating Temperature Range: -30.00 to 85.00°C
- Ageing:  $\pm 2$ ppm max over 1 year @ 25°C
- Frequency Tolerance: Offset from nominal frequency measured at 25°C  $\pm 2$ °C.
- Reflow shift (two consecutive reflows as per profile after 1 hour recovery at 25°C):  $\pm 1$ ppm max
- Frequency Stability: Referenced to the midpoint between minimum and maximum frequency value over the specified temperature range, note 1
- Frequency slope: (temperature range -10°C to 60°C. Tested to a minimum of 1 frequency reading every 2°C, note 1): 0.05ppm/°C max
- Frequency drift: (calculated from frequency slope with temperature varied at a maximum of 1.92°C/min (0.032°C/s) over -10°C to 60°C, note 5): 1.6ppb/sec max
- Frequency slope (temperature range -30°C to 85°C. Tested to a minimum of 1 frequency reading every 2°C, note 1): 0.1ppm/°C max
- Frequency drift: (calculated from frequency slope with temperature varied at a maximum of 0.96°C/min (0.016°C/s) over -30°C to 85°C, note 5): 1.6ppb/sec max
- Small thermal cycle frequency slope (measured at 0.5°C intervals over any 5°C heating and 5°C cooling cycle, at a minimum rate of 1°C/minute within the operating temperature range, note 6): 50ppb/°C max
- Small thermal cycle hysteresis (difference in frequency measurements over any 5°C heating and 5°C cooling cycle, at a minimum rate of 1°C/minute within the operating temperature range): 50ppb pk-pk max
- Supply Voltage Variation ( $\pm 5\%$  change, at 25°C):  $\pm 0.1$ ppm max
- Load Variation ( $\pm 10\%$  change):  $\pm 0.2$ ppm max

## Electrical Parameters

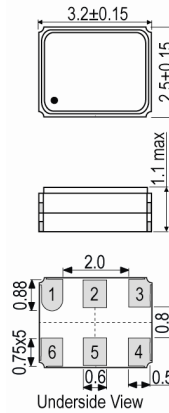
- Supply Voltage: 2.85V  $\pm 5\%$
- Current Draw: 2.00mA
- Supply Current: (at Vs max)

## Output Details

- Output Compatibility: Clipped Sine
- Drive Capability: 10k $\Omega$ //10pF  $\pm 10\%$
- Output: DC coupled (note 4)
- Output Voltage Level (at Vs min): 0.8V pk-pk min



## Outline (mm)

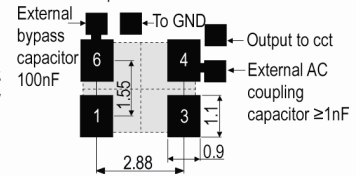


### Pad Connections

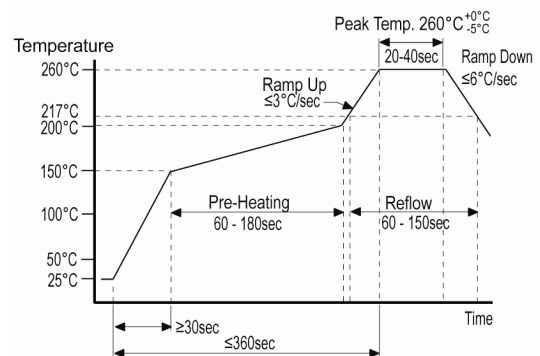
1. GND
2. NC
3. GND
4. Output
5. NC
6. +Vs

### Solder Pad Layout

Note: recommend no tracks inc plains under device



## Pb-Free Reflow



## Sales Office Contact Details:

UK: +44 (0)1460 270200  
Germany: 0800 1808 443

France: 0800 901 383  
USA: +1.760.318.2824

Email: [info@iqdfrequencyproducts.com](mailto:info@iqdfrequencyproducts.com)  
Web: [www.iqdfrequencyproducts.com](http://www.iqdfrequencyproducts.com)

**Noise Parameters**

- Phase Noise (typ at 25°C):
  - 62dBc/Hz @ 1Hz
  - 90dBc/Hz @ 10Hz
  - 115dBc/Hz @ 100Hz
  - 135dBc/Hz @ 1kHz
  - 147dBc/Hz @ 10kHz
  - 149dBc/Hz @ 100kHz
- Phase Noise (max at 25°C):
  - 57dBc/Hz @ 1Hz
  - 86dBc/Hz @ 10Hz
  - 111dBc/Hz @ 100Hz
  - 133dBc/Hz @ 1kHz
  - 144dBc/Hz @ 10kHz
  - 148dBc/Hz @ 100kHz

**Environmental Parameters**

- Shock: Half sine-wave acceleration of 100G peak amplitude for 11ms duration, 3 cycles each plane.
- Humidity: after 48 hours at 85°C±2°C 85% relative humidity non-condensing.
- Thermal shock: exposed at -40°C for 30 minutes then to 85°C for 30 minutes constantly for a period of 5 days.
- Storage Temperature Range: -40 to 85°C

**Manufacturing Details**

- Note 1: Parts should be shielded from drafts causing unexpected thermal gradients. Temperature changes due to ambient air currents can lead to short term frequency drift.
- Note 2: Specified for the load stated in the Output Details section, at 25°C.
- Note 3: The unit will operate on any voltage between minimum and maximum values.
- Note 4: External AC-Coupling capacitor required. 1nF or greater recommended.
- Note 5: Frequency drift rate is calculated from the equation  $\text{ppb/s} = \text{°C/s} \times \text{ppb/°C}$
- Note 6: Discard the first 0.5°C interval of each heating and cooling cycle.

**Compliance**

- RoHS Status (2011/65/EU)      Compliant
- REACH Status                      Compliant
- MSL Rating (JEDEC-STD-033):    Not Applicable

**Packaging Details**

- Pack Style: Reel      Tape & reel in accordance with EIA-481-D  
Pack Size: 3,000
- Alternative packing option available*

**Sales Office Contact Details:**

UK: +44 (0)1460 270200  
Germany: 0800 1808 443

France: 0800 901 383  
USA: +1.760.318.2824

Email: [info@iqdfrequencyproducts.com](mailto:info@iqdfrequencyproducts.com)  
Web: [www.iqdfrequencyproducts.com](http://www.iqdfrequencyproducts.com)

## Данный компонент на территории Российской Федерации

### Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

moschip.ru\_9