

As individual as your requirements.

QUARTZ AND OSCILLATORS BY ETRONICS

Five good reasons for quartz and oscillators by etronics.



QUALITY IS OUR UTMOST PRIORITY.

We have manufactured quartz and oscillators for 20 years - in accordance with your requirements and at the highest standard.



PRACTISE MAKES PERFECT.

Our many years of experience pay off: we develop sophisticated solutions for the design and production of quartz and oscillators.



SHORT DELIVERY TIMES FROM SWITZERLAND.

Our warehouse means flexibility for you as we can supply our customers with goods within two days.



WE WORK WITH PRO'S.

Reliable. Effective. Professional. We use a stringent selection process for our quartz and oscillators suppliers.



GOOD TERMS - GOOD PRICES TOO.

Large production volumes from our partners are in your interest too as they enable us to offer attractive prices.

A host of possibilities under one roof.

Leaded quartz or SMD quartz and SMD oscillators in the kilo- or megahertz range: regardless of your choice, we have it all. We will help you to select the appropriate crystal or customise a quartz or oscillator in accordance with your requirements.

OSCILLATORS

A quartz oscillator is an electric circuit which creates a certain oscillation with the aid of a piezoelectric crystal. Piezoelectric crystals have the advantage of being very precise in their frequency with a deviation of less than 100ppm. In practice they are used as impulse generators for radio devices, processors, quartz watches and micro controllers.

Frequency range:

20 kHz ~ 125 MHz

Frequency tolerance:

±20 ppm, ±50 ppm, ±100 ppm



Output logic:

TTL / CMOS

Power consumption:

15 ~ 45mA (frequency dependent)

Power supply voltage:

VDC 3 V ~ 5 V or 2.8 V

Operating temperature range:

-40 °C to 85 °C

Input voltage VDD (DC):

3.3 V, 5.0 V, and others

Storage temperature range:

-55 °C to 125 °C

Output voltage high '1':

- TTL: 2.4 V, and others
- CMOS: 2.97 V, 4.5 V, and others

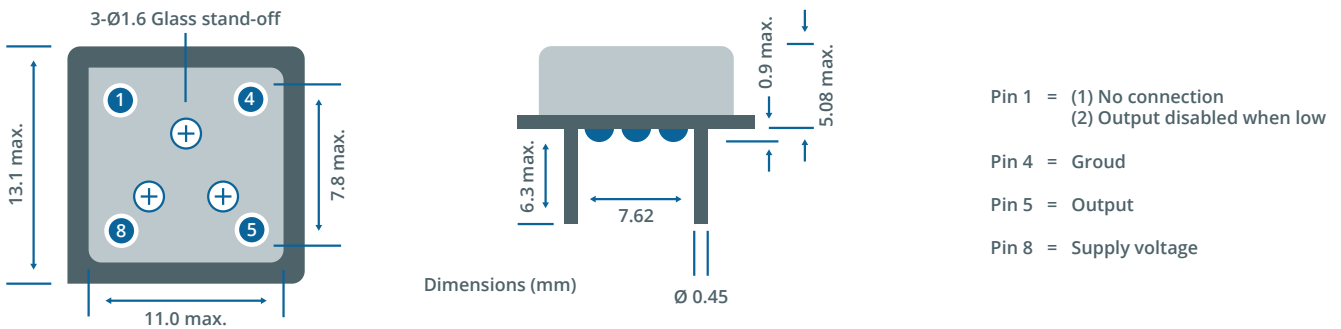
Aging:

Fewer than +/-5 ppm / year (at 25+/-5°C)

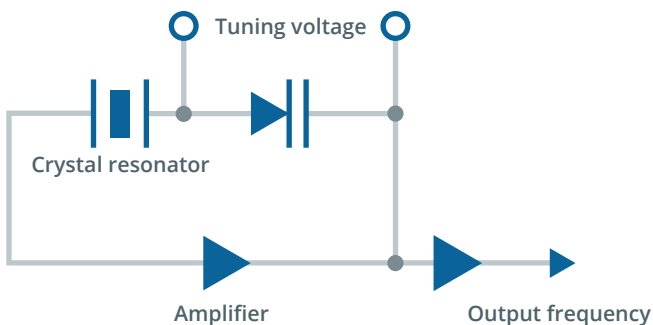
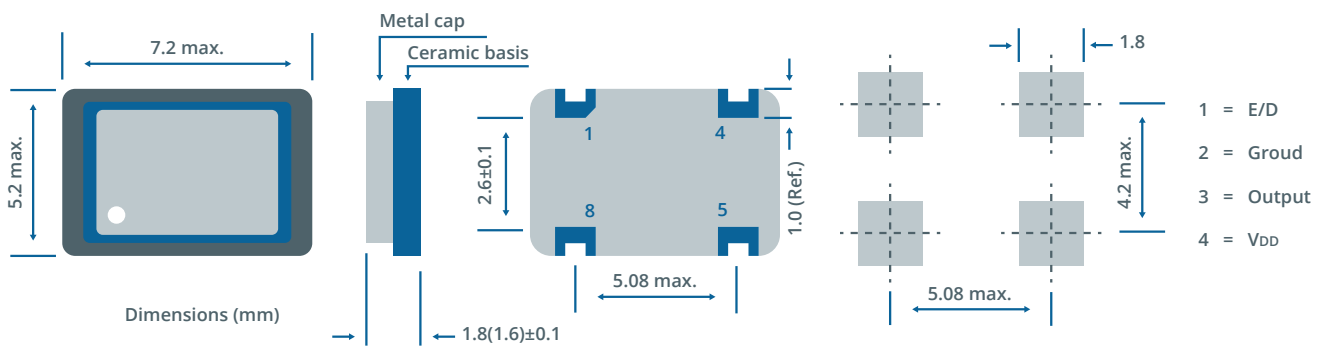
Output voltage low '0':

- TTL: 0.4 V, and others
- CMOS: 0.33 V, and others

EXAMPLES OF DIP TYPE OSCILLATORS*



EXAMPLES OF SMD OSCILLATORS*



* Available in other sizes and frequencies

The right impulse for your technology.

Quartz is short for piezoelectric quartz crystal: an electronic component in crystal oscillators which creates an electrical oscillation with a certain frequency. Unlike oscillators, the piezoelectric crystal is more affordable as it requires an external power source to oscillate.

SMD QUARTZ

Our SMD quartz are used for all kinds of electronic devices.

Frequency range (fundamental):

3.2 MHz to 50 MHz

Frequency range (3rd overtone):

12~130 MHz

Frequency tolerance:

AT-cut: ± 30 ppm at 25 °C

Frequency stability:

AT-cut: ± 30 ppm over -10 °C ~ +70 °C

Shunt capacitance (Co):

7 pF max.

Load capacitance (Cl):

8 pF ~ 32 pF for series

Drive level:

100 μ W (typical)



Operating temperature range:

-40 °C to +80 °C

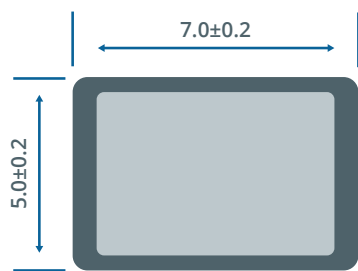
Storage temperature range:

-55 °C to +125 °C

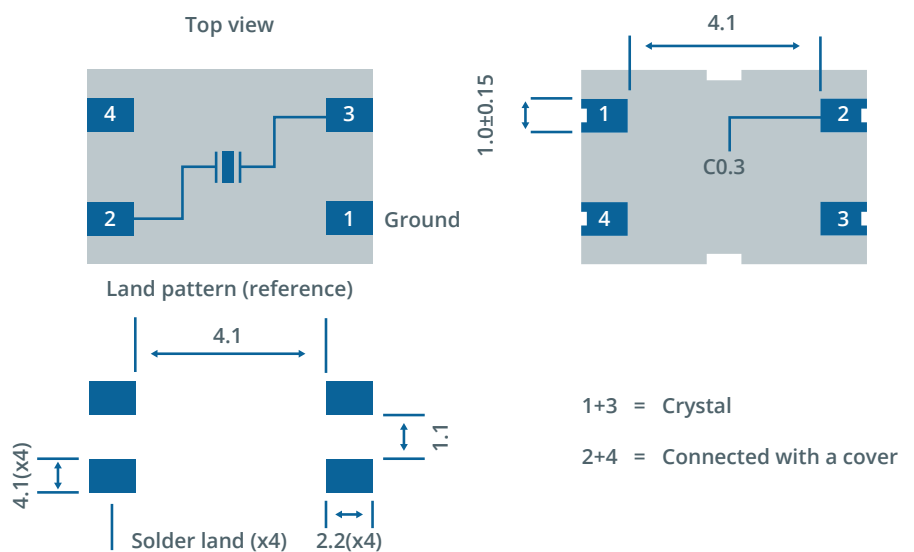
Aging:

Fewer than ± 3 ppm / year (at 25 \pm 5 °C)

EXAMPLE OF SMD QUARTZ*



Dimensions (mm)



* Available in other sizes and frequencies

CYLINDRICAL QUARTZ

Cylindrical quartz are used as impulse generators in computer systems and are called real-time clocks due to their precision.

Frequency range:

4 MHz to 50 MHz

Mode of oscillation:

- AT-cut / fundamental (4.0 ~ 30.0 MHz)
- AT-cut / 3rd overtone (30.1 ~ 50.0 MHz)

Frequency tolerance:

AT-cut: ± 30 ppm at 25 °C

Frequency stability:

AT-cut: ± 50 ppm over -10 ~ +70 °C

Shunt capacitance (Co):

5 pF max.

Load capacitance (Cl):

16 pF type (due to specification)



Drive level:

10 ~ 100 μ W

Operating temperature range:

-40 °C to +85 °C

Storage temperature range:

-55 °C to +125 °C

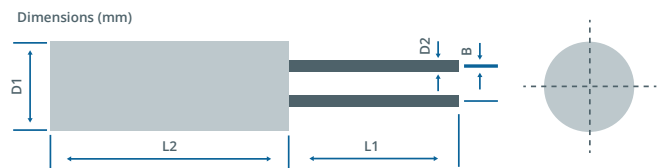
Aging:

Fewer than ± 3 ppm / year (at 25 \pm 5 °C)

EXAMPLES OF CYLINDRICAL QUARTZ*

| EQUIVALENT SERIES RESISTANCE | | |
|------------------------------|-------------------|------------------|
| Frequency | ESR | Oscillation mode |
| 12 ~ 27.0 MHz | 60 Ω max. | Fundamental |
| 4.0 ~ 5.9 MHz | 150 Ω max. | Fundamental |
| 6.0 ~ 9.9 MHz | 100 Ω max. | Fundamental |
| 10.0 ~ 30.0 MHz | 60 Ω max. | Fundamental |
| 30.1 ~ 50.0 MHz | 100 Ω max. | 3rd Overtone |

| L1 | L2 | D1 | D2 | B |
|----------|----------------|-----------------------------|------------------------------|---------------|
| 7.5 Max. | 6.4 \pm 0.2 | \varnothing 2.0 \pm 0.2 | \varnothing 0.20 \pm 0.2 | 0.8 \pm 0.2 |
| 10 Max. | 8.2 \pm 0.2 | \varnothing 3.0 \pm 0.2 | \varnothing 0.32 \pm 0.2 | 0.8 \pm 0.2 |
| 10 Max. | 9.0 \pm 0.2 | \varnothing 3.0 \pm 0.2 | \varnothing 0.32 \pm 0.2 | 0.8 \pm 0.2 |
| 10 Max. | 10.0 \pm 0.2 | \varnothing 3.0 \pm 0.2 | \varnothing 0.32 \pm 0.2 | 0.8 \pm 0.2 |

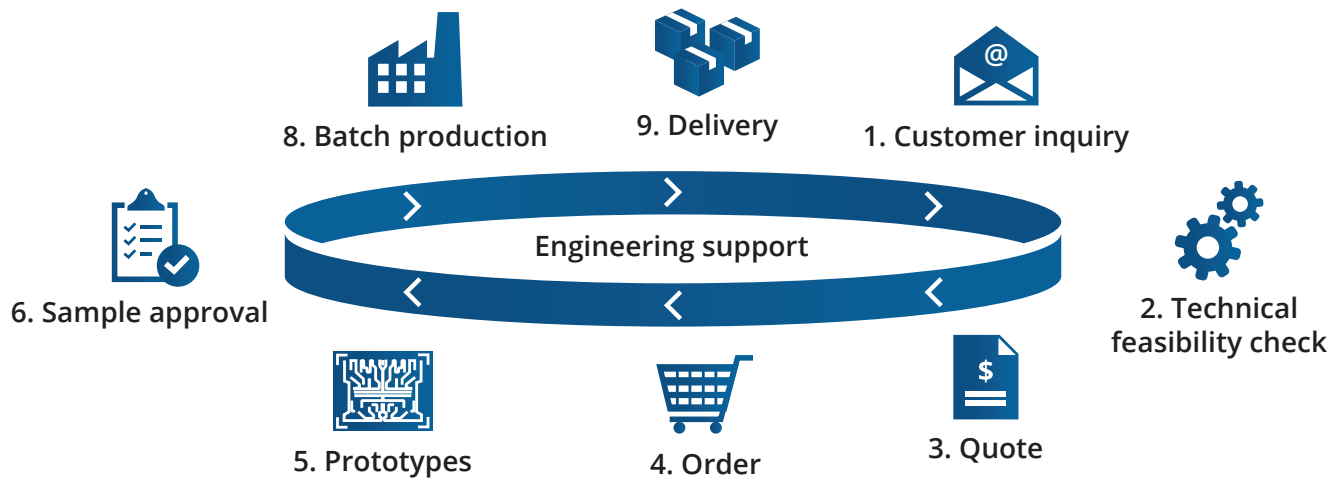


* Available in other sizes and frequencies

Cooperation is the way to go. Especially with us.

The market for quartz and oscillators can seem confusing due to the huge variety. Based on our years of experience in this branch we can help you to select the right manufacturer for your application. Moreover, we can find a manufacturer who also delivers smaller volumes.

A NEAT PIECE OF WORK: PROFESSIONAL HANDLING.



Comprehensive service. For comprehensive satisfaction.

etronics combines technical expertise with customer's customization requirements. Our beginnings as a company were in SMD components and has focused on the manufacturing of customized components over the last 30 years.

We have been producing piezoelectric crystals and oscillators for over 20 years. The product groups shown here are a small sample of what we offer, no matter what you need, we have a manufacturer who can produce your quartz crystal or oscillator to your exact specification.

We are looking forward to developing a solution with you.



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