



Pascal Technologies

AT cut Quartz Crystals

Drop-in replacement for



- Maxtek™
- Sycon™
- Sigma™

Patterns



Inficon™



Balzers™



Ulvac™ Type



Materials Available

- Aluminum Alloy
- Gold
- Silver
- Nickel

Specifications

- Temp Range: 20-100°C
- Frequency: 5/6MHz
- Diameter: 14/12.5mm
- Resistance: <15 Ohms

Phillip Technologies™ AT cut replacement quartz monitoring crystals are the **ideal film thickness sensor for environments ranging from 20-100°C**. They are the perfect solution for most low temperature PVD applications that require standard measurement accuracy or resistance to heat interference.

These crystals are manufactured in the USA and shipped from stock. **Pricing is highly competitive**, with high accuracy, quality, and reliability. Most styles are available at **\$33.50 per disc of 10**.

The crystals market has seen considerable consolidation and outsourcing in recent years. Phillip Technologies is breaking this trend by offering the latest technologies in the field, with **the advantages of USA production, technical support, fast deliveries, no minimum order, and low shipping costs**.



For further technical information visit www.philliptech.com/crystals



Pascal Technologies

RC cut Quartz Crystals

World's Most Advanced Crystal Sensor

- Endures Environments up to 300°C
- Minimizes Thermal Shock
- No Rate Spikes - Higher Measuring Accuracy
- Many Patterns and Coatings Available!

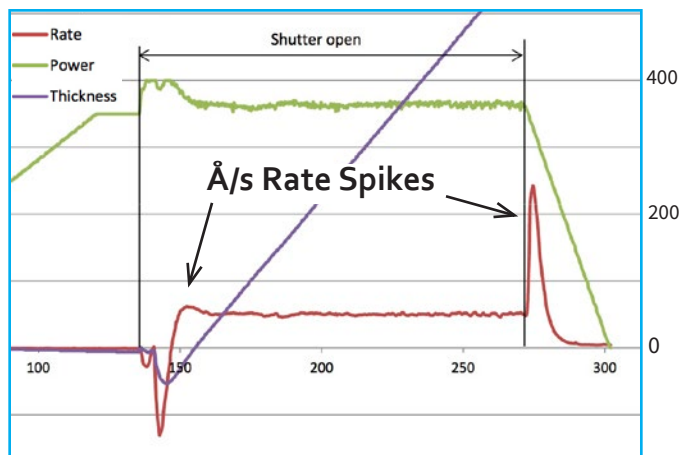


Phillip Technologies™ RC cut crystals are the patented solution for extreme processes with demanding accuracy requirements. They provide **real advantages in OLED, ALD, CVD, precision optical films, and next generation electronic devices.** This revolutionary design does not show a rate spike when the deposition source monitor is opened.

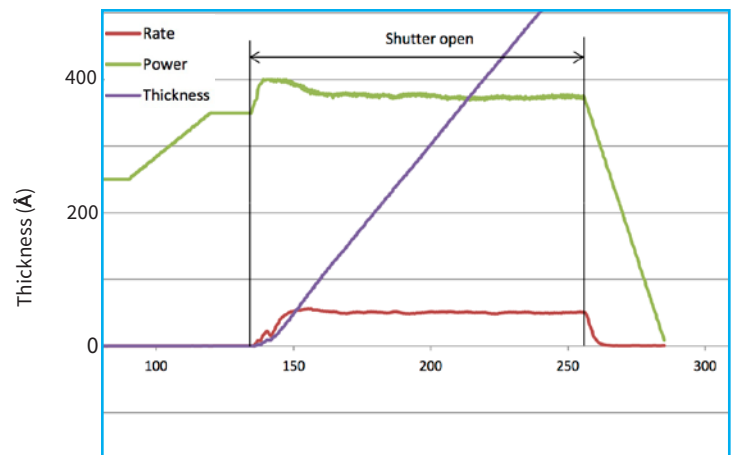
The graphs below illustrate this difference between RC and industry standard AT crystals. Further, the stress insensitivity of the crystal and enhanced surface finish dramatically reduce frequency change due to film build-up stress and the noise from the intense energy of sputtering.

Thickness accuracies can be improved by over 30% in most applications; and even up to 100% for ultra-thin films in the 10 to 100 Angstrom range.

Standard AT-cut Quartz



Phillips RC-cut Quartz



RC crystals can operate up to 300° C, making them perfect for high temperature applications like CVD and ALD. These 14mm diameter crystals are made in 5 and 6 MHz versions, with gold, silver, Platalloy, aluminum, or custom electrodes. RC Crystals can be used in place of standard AT cut quartz crystals in all commercially available film thickness monitors.

Manufactured in the USA and shipped from stock. Pricing is **\$99.50 for disc of 10** (quantity discounts available).

For further technical information visit www.philliptech.com/crystals