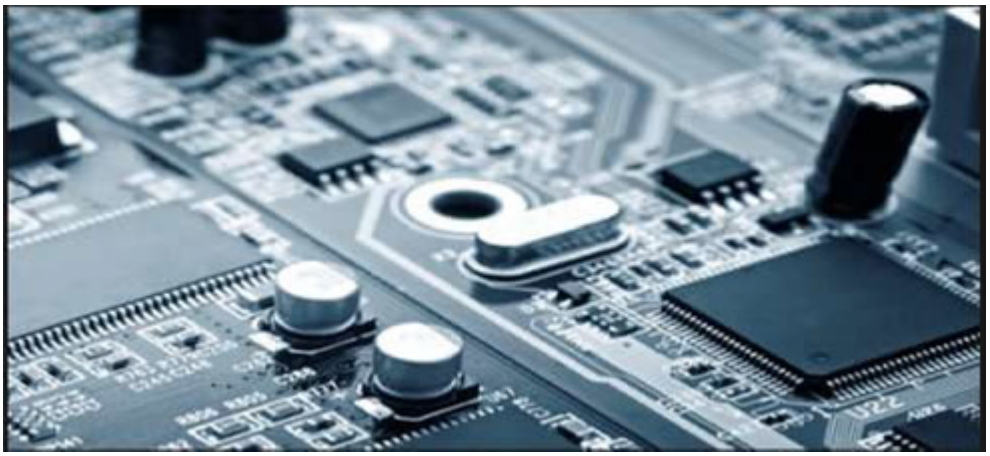
Applications

HPQ Applications

- 

Semiconductors

- High purity quartz products are ideal for use in the semiconductor industry, due to their superior quality and excellent purity
- High purity quartz is utilized in the semiconductor industry to produce crucibles and quartz glass products such as windows, rods, and tubes
- High purity quartz is also employed in the production of silicon metal, which is the base for semiconductor wafers manufactured by using the Czochralski process

Solar

- Solar energy is an easy-to-install source of renewable energy currently available.
- High purity quartz is utilized primarily for Czochralski crucibles for photovoltaic cells, tubes, and other hardware that are used in the photovoltaic industry
- High purity quartz is also utilized in several ways in the manufacture of c-Si cells and modules including in crucibles; quartz glass for tubes, rods, and widows; and silicon metal, which the base material for all c-Si PV modules

Optical Fibers

- The core of optical fibers is usually made from synthetic silica, while the transparent cladding material can be made from glass of natural high

purity quartz

- A small number of high purity quartz crystals are utilized for prisms and lenses in optical instruments
- High-purity UV grades of fused quartz are employed to manufacture several individual uncoated lens elements of special-purpose lenses

Lighting

- The glass used in halogen lamps must have excellent optical transmission properties and the ability to withstand extreme temperatures and thermal shocks without getting deformed. The tungsten filament glows at a temperature of 2500°C, only a few mm away from the glass wall. Only high purity quartz glass can be used for this application.
- HPQ is utilized in all types of quartz lighting including automotive xenon, halogen, HID, and UPH lamps