

DETAILED SPECIFICATION FOR QCM SENSOR PART # QCM9140CrAg051-051-C

KEY FEATURES

- 9 MHz
- 14.0 MM SENSOR DIAMETER
- 5.1 / 5.1 MM ELECTRODE DIAMETER
- CHROMIUM / SILVER ELECTRODES
- 100% TESTED ELECTRICALLY AND VISUALLY

DESCRIPTION

For use in film thickness monitors. Very reliable function due to good adhesion of electrodes. Long operational life time. 180 degrees electrode flags for connection

GENERAL

| Item | Parameter | Value |
|------|-----------------|-------------|
| 1.0 | Sensor design | Plano-Plano |
| 2.0 | Angle of cut | AT |
| 3.0 | Jig compability | Custom |

ELECTRICAL

| | | |
|-----|-----------------------|------------|
| 4.1 | Nominal frequency | 9.000 MHz |
| 4.2 | Center frequency | 9.000 MHz |
| 4.3 | Frequency tolerance | +/- 20 KHz |
| 4.4 | Q-value | > 100 000 |
| 4.5 | Shunt capacitance, C0 | Typ. 10 pF |

ELECTRODES

| | | |
|-----|--------------------------|--------------------------|
| 5.1 | Front electrode diameter | 5.1 mm |
| 5.2 | Front electrode material | Cr/Ag, Chromium / Silver |
| 5.3 | Back electrode diameter | 5.1 mm |
| 5.4 | Back electrode material | Cr/Ag, Chromium / Silver |
| 5.5 | One sided contacting | No |

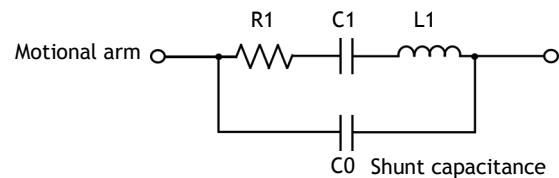
MECHANICAL & DRAWING

| | | |
|-----|--------------------------|-------------|
| 6.1 | Nominal blank diameter | 14.0 mm |
| 6.2 | Crystal axes orientation | Yes |
| 6.3 | Surface appearance | Transparent |
| 6.4 | Bevel | No |

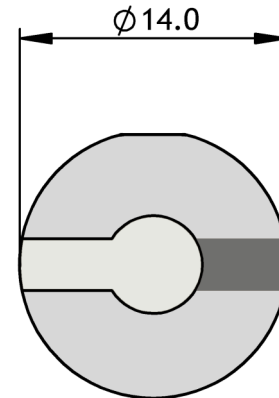


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Quartz Crystal
Electrical equivalent 2pole

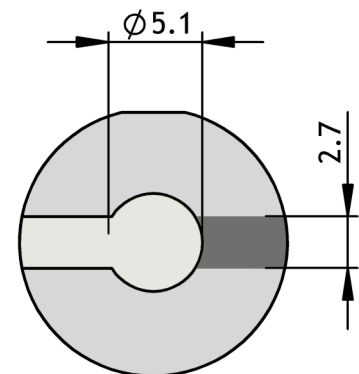


Front electrode



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Back electrode



DETAILED SPECIFICATION FOR QCM SENSOR PART # QCM9140CrAg051-051-C

MARKING / LABEL

| | | |
|-----|--------------------|---------------------------------|
| 7.1 | QR code | Simple info readout with QR app |
| 7.2 | Part Number | QCM9140CrAg051-051-C |
| 7.3 | Nom. Frequency | 9.000 MHz |
| 7.4 | Sensor diameter | 14.0 mm |
| 7.5 | Electrode material | Cr/Ag, Chromium / Silver |



PACKAGING & STORAGE

| | | |
|-----|------------------------|--|
| 8.1 | Sensor package type | Revolving plastic depository with a transparent lid for easy inspection |
| 8.2 | Storage quantity | 10 covered dust and shock protected storage positions and 1 open position for ejection |
| 8.3 | Package protection | Package is protected with a vacuum sealed plastic bag for prolonged storage and shipping |
| 8.4 | Storage recommendation | After opening plastic vacuum bag preferably store in dust free dry Air or Nitrogen @ room temperature. |
| 8.5 | Cleaning | No cleaning necessary before use. However after prolonged storage in humid air a light cleaning in a ultrasonic bath of either ultraclean water or alcohol without any denaturation can be done to remove adsorbed molecules on the surfaces |

REVISION HISTORY

| | Date | Description |
|-----|------------|------------------------|
| 9.0 | 2010.11.15 | First issue |
| 9.1 | 2014.08.15 | New detailed datasheet |
| 9.2 | | |
| 9.3 | | |
| 9.4 | | |
| 9.5 | | |

DETAILED SPECIFICATION FOR QCM SENSOR PART # QCM9140CrAg051-051-C

PRODUCT PART NUMBER DESIGNATION AND INTERPRETATION. FOR MORE ALTERNATIVES SEE PAGE 3

| Item | Product Category | 1. Nominal Frequency | 2. Sensor Diameter | 3a. Coating Multiple layer 3b. Coating Single layer | 4. Electrode Diameter Ø Front-Back | 5. Jig/Holder Compability |
|-----------|------------------|----------------------|--------------------|--|---------------------------------------|---------------------------|
| Parameter | QCM | 9 MHz | 14.0 | Chromium / Silver | 5.1-5.1mm | Custom |
| Code | QCM | 9 | 140 | CrAg | 051-051 | C |

Part number designation : QCM9140CrAg051-051-C

PART NUMBER DESIGNATION OPTIONS (AVAILABLE TYPES)

| 1. Nom Frequency | Designation | 2. Sensor Diameter Ø | Designation | 3a. Coating -Multiple layer | Designation |
|------------------|-------------|----------------------|-------------|-----------------------------|-------------|
| 5.00 MHz | 5 | 8.90 mm | 089 | Chromium/Gold | CrAu |
| 6.00 MHz | 6 | 12.45 mm | 125 | Silver/Aluminum | AgAl |
| 9.00 MHz | 9 | 14.0 mm | 140 | Nickel/Silver | NiAg |
| 10.7 MHz | 10 | 25.4 mm | 254 | Titanium/Gold | TiAu |
| | | | | Chromium/Gold/SiO2 | CrAuSiO2 |
| | | | | Nickel/Silver | NiAg |

| 4. Electrode Diameter Ø Front-Back | Designation | 5. Jig/Holder Compability | Designation | 3b. Coating -Single layer | Designation |
|---------------------------------------|-------------|---------------------------|-------------|---------------------------|-------------|
| 5.1-5.1 mm | 051-051 | Balzer | B | Gold | Au |
| 5.4-5.4 mm | 054-054 | Sloan/Ulvac | S | Silver | Ag |
| 7.5-5.0 mm | 075-050 | Inficon* | I | Copper | Cu |
| 7.5-7.5 mm | 075-075 | Q Sense | Q | Titanium | Ti |
| 11.5-11.5 mm | 115-115 | Maxtek 25.4 mm | M | Aluminum | Al |
| 12.0-5.0 mm | 120-050 | HC-50 | H | | |
| 12.8-6.4 mm | 128-064 | Custom | C | | |
| 13.0-6.4 mm | 130-064 | | | | |
| 13.0-13.0 mm | 130-130 | | | | |
| 13.3-6.0 mm | 133-060 | | | | |

* also compatible with Maxtek, Sycon, Sigma ,Intellimetrics, Fil-Tech, Phelps

Custom made products: In case you need something else that is not listed above, please feel free to ask and we will check our possibilities. Use our contact form under Contact. www.quartzpro.com

