

## DETAILED SPECIFICATION FOR QCM SENSOR PART # QCM5140TiAu120-050-Q

### KEY FEATURES

- 5 MHz
- 14.0 MM SENSOR DIAMETER
- 12.0 / 5.0 MM ELECTRODE DIAMETER
- TITANIUM / GOLD ELECTRODES
- Q-SENSE™ TEST JIG COMPATIBLE
- FOR LIQUID BIOSENSING
- 100% TESTED ELECTRICALLY AND VISUALLY

### DESCRIPTION

A proven sensor using the original sensor for liquid biosensing. Useful up to 13th overtone. Very reliable function due to good adhesion of electrodes. Long operational life time. Wrap over electrode for one sided contacting.

### GENERAL

Item	Parameter	Value
1.0	Sensor design	Plano-Plano
2.0	Angle of cut	AT
2.1	Frequency vs Temp stability	< +/- 5 ppm (0 to + 50 degC)
3.0	Jig compability	Q-SENSE™

### ELECTRICAL

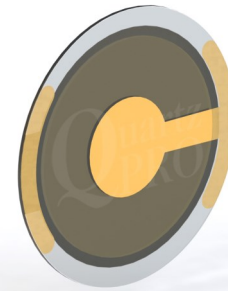
4.1	Nominal frequency	5.000 MHz
4.2	Center frequency	5.000 MHz
4.3	Frequency tolerance	+/- 20 KHz
4.4	Q-value	> 100 000
4.5	Shunt capacitance, C0	Typ. 5 pF

### ELECTRODES

5.1	Front electrode diameter	12.0 mm
5.2	Front electrode material	Ti/Au, Titanium / Gold
5.3	Back electrode diameter	5.0 mm
5.4	Back electrode material	Ti/Au, Titanium / Gold
5.5	One sided contacting	Yes

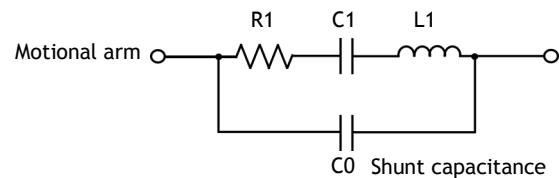
### MECHANICAL & DRAWING

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

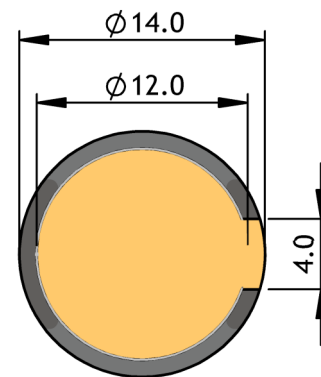


© 2013-2014 Quartz Pro  
Image protected by Digimarc ©

Quartz Crystal  
Electrical equivalent 2pole

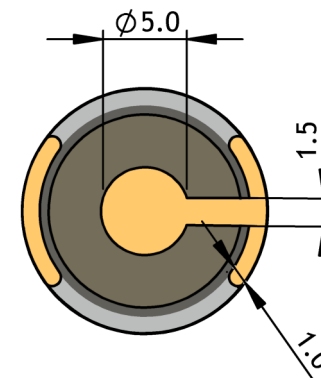


Front electrode



© 2013-2014 Quartz Pro  
Image protected by Digimarc ©

Back electrode



## DETAILED SPECIFICATION FOR QCM SENSOR PART # QCM5140TiAu120-050-Q

### MARKING / LABEL

7.1	QR code	Simple info readout with QR app
7.2	Part Number	QCM5140TiAu120-050-Q
7.3	Nom. Frequency	5.000 MHz
7.4	Sensor diameter	14.0 mm
7.5	Electrode material	Ti/Au, Titanium / Gold



### 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	2011.03.04	First issue
9.1	2014.08.15	New detailed datasheet
9.2		
9.3		
9.4		
9.5		

IMPORTANT NOTICE. For the avoidance of any doubt: any and all references to the following trademarks;

Q-SENSE™, KSV™, INFICON™, BALZER™, SLOAN™, ULVAC™, MAXTEK™ on the Quartz Pro Sweden AB webpage are for customer guidance only and do not purport to constitute or be any part of Quartz Pro Sweden AB's own trademarks or product designations. The sole purpose of the references made is to establish the fact that the relevant Quartz Pro Sweden AB product is compatible with the product or products manufactured and or distributed under the trademark referenced to. Quartz Pro Sweden AB is an independent supplier and no commercial or legal relations exist between the holders of said trademarks and Quartz Pro Sweden AB

DETAILED SPECIFICATION FOR QCM SENSOR PART # QCM5140TiAu120-050-Q

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	5 MHz	14.0	Titanium / Gold	12.0-5.0mm	Q-SENSE™
Code	QCM	5	140	TiAu	120-050	Q

Part number designation : QCM5140TiAu120-050-Q

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	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™, SYCONT™, SIGMA™, INTELLIMETRIC™, 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](http://www.quartzpro.com)

