

DATA SHEET - QUARTZ CRYSTAL

Parameters of the Crystal



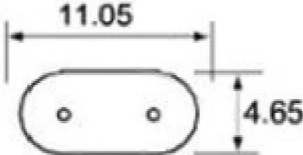
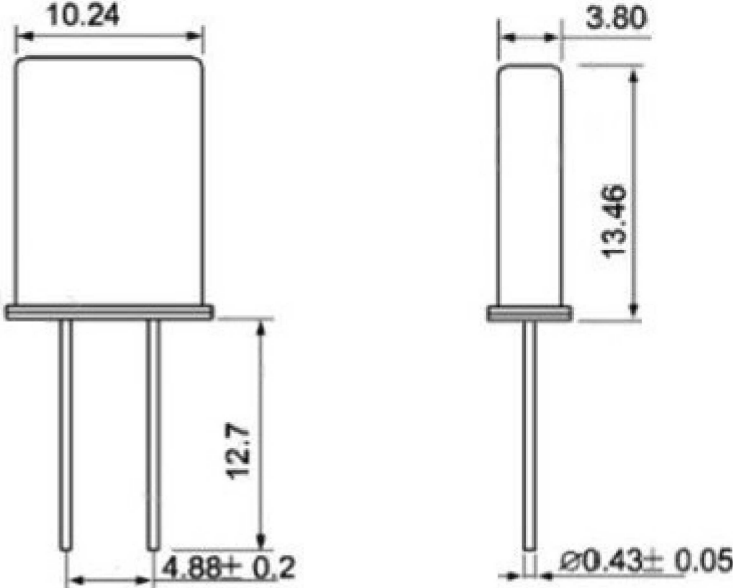
	Parameters	
1	Nominal Frequency	3.579545MHZ~40.000MHZ
2	Holding	
3	Vibration Mode	AT CUT, FUND.
4	Frequency Tolerance @ 25±3°C	±30PPM
5	Frequency Stability@ 6	±30PPM
6	Operating Temperature Range	-20°C ~ +70°C
7	Store Temperature Range	-40°C ~ +85°C
8	Equivalency Resistance	60~180Ω
9	Load Capacitance	20PF
10	Drive Level	100μW
11	Insulation Resistance	> 500MΩ at DC 100V±15V
12	Aging	±5PPM/year
13	Shunt Capacitance(CO)	≤7.0PF
14	Marking	3.579545MHZ~40.000MHZ

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Construction

- 1 Outline drawing
- 2 Unit:mm



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ENVIRONMENTAL



Test Item	Condition of Test	Performance Requirements
Tensile Strength Termination	The unit's lead wire should withstand a tensile force applied to the termination in the direction of its draw-out axis of up to 900g maintained as is for 30±5s .	There should be no abnormalities detected on the unit
Vibration	Endurance condition by a frequency sweep shall be made. the entire frequency range from 10HZ to 55HZ and return to 10HZ, shall be transversed in 1min. Amplitude (total excursion): 1.5mm This motion shall be applied for a period of 2h each of 3 mutually perpendicular axes(a total of 6h)	After the test, the parameters of table must be satisfied
Drop	From 750mm height 3 times on 30mm hard wooden floor	
Shock	Peak acceleration:981m/s ² Duration of the pulse :6ms Three successive shocks shall be applied in both direction of 3 mutually perpendicular axes(a total of 18 shocks)	
Damp heat, constant	The unit shall be stored at a temperature of 40°C±2°C with relative humidity of 90% to 95% for 56d, then it shall be subjected to standard atmospheric conditions for 1h after which measurement shall be made.	
Cold	The unit shall be stored at a temperature of -55±3°C for 2h , then it shall be subjected to standard atmospheric conditions for 1h after which measurement shall be made.	
Dry heat	The unit shall be stored at a temperature of 105±3°C for 16h , then it shall be subjected to standard atmospheric conditions for 1h after which measurement shall be made.	
Aging	The unit shall be stored at a temperature of 85±2°C for 30d , then it shall be subjected to standard atmospheric conditions for 1h after which measurement shall be made.	

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Test Item	Condition of Test	Performance Requirements															
Temperature Cycling	<p>The unit shall be subjected to 100 successive change of temperature cycles, each as shown in table below, then it shall be subjected to standard atmospheric conditions for 1h after which measurement shall be made.</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;"></th> <th style="width: 45%;">Temperature</th> <th style="width: 50%;">Duration</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">-55°C±3°C</td> <td style="text-align: center;">30min</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">standard atmospheric conditions</td> <td style="text-align: center;">Within 30S</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">125°C±3°C</td> <td style="text-align: center;">30min</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">standard atmospheric conditions</td> <td style="text-align: center;">Within 30S</td> </tr> </tbody> </table>		Temperature	Duration	1	-55°C±3°C	30min	2	standard atmospheric conditions	Within 30S	3	125°C±3°C	30min	4	standard atmospheric conditions	Within 30S	After the test, the parameters of table must be satisfied
	Temperature	Duration															
1	-55°C±3°C	30min															
2	standard atmospheric conditions	Within 30S															
3	125°C±3°C	30min															
4	standard atmospheric conditions	Within 30S															
Resistance to soldering heat	<p style="text-align: center;"> REFLOW SOLDERING CURE CHART TEMPERATURE (°C) vs TIME (Seconds) </p> <p> 25°C to Peak : 360s 25°C to 150°C : 60 TO 120 s 150°C to Peak : 40 TO 90 s PEAK : 10s MAX Heating Rate: +4°C/s MAX Preheating: 60 TO 120 s Cooling Rate: -6°C/s MAX Total : 420s </p> <p>Reflow soldering cure see the chart. Soldering iron method: Bit temperature : 390°C±10°C Application time of soldering iron : 5S MAX</p>	After the test, the parameters of table must be satisfied															

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Notice:

Standard atmospheric conditions:

Unless otherwise specified, the standard range of atmospheric conditions for making measurements and tests are as follows:

Ambient temperature	:	25°C ±10°C
Relative humidity	:	30% to 80%
Air pressure	:	860hPa to 1060hPa

If there is no doubt about the result, the measurements and tests shall be made within the follows limits:

Ambient temperature	:	25°C ±2°C
Relative humidity	:	55% to 65%
Air pressure	:	860hPa to 1060hPa