

## $2.0 \times 1.6 \times 0.59 \mathrm{~mm}$

## SPECIFICATION:

Frequency Range:
Operation Mode:
Operating Temperature:
Storage Temperature: Frequency Tolerance: Frequency Stability: Equ. Serie Resistance: Shunt Capacitance: Load Capacitance: Drive Level:
Aging @ xx per Year Insulation Resistance:

18,00 ~ 50 Mhz
Fundamental
.$-10^{\circ} \mathrm{C}$ to $+50^{\circ} \mathrm{C}$ (see options)
. $-40^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$
$\pm 30$ ppm max. (see options)
$\pm 50$ ppm max. (see options)
see ESR table
7pf max.
10pf (see options)
$10 \sim 100 \mu \mathrm{~W}$. max.
.+/-5ppm @ $25^{\circ} \mathrm{C}$
$500 \mathrm{M} \Omega$ min. with $100 \mathrm{Vdc} \pm 15 \mathrm{Vdc}$

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## Dimensions (mm)

| Length: | 2.0 mm |
| :--- | :--- |
| Wide: | $1,6 \mathrm{~mm}$ |
| Height | $0,6 \mathrm{~mm}$ |


| Standard ESR table |  |
| :---: | :---: |
| Frequency | ESR max. |
| $18,0000 \sim 20,999 \mathrm{Mhz}$ | $120 \Omega$ |
| $21,0000 \sim 29,999 \mathrm{Mhz}$ | $100 \Omega$ |
| $30,000 \sim 37,999 \mathrm{Mhz}$ | $80 \Omega$ |
| $38,000 \sim 50,000 \mathrm{Mhz}$ | $60 \Omega$ |



## Technical and Mechanical Explanation

Thermal Shock:
Vibration:
Drop test:
Humidity:
Marking permanency
Fine leak test:
Gross leak test:
Solderability:
Lead bend:

Temperature cycling: $\quad .+-5 \mathrm{ppm}$ max. $-55^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}, 3 \mathrm{Cycles}, 2$ hours max. Reference $25^{\circ} \mathrm{C}$.
$+85^{\circ} \mathrm{C}$ and $-55^{\circ} \mathrm{C}$. Exposure time at extreme temperature for 5 minutes, 3 cycles.
Frequency with am amplitude of $1,5 \mathrm{~mm}$ sweeping between 10 Hz to 55 Hz within 1 minute for 2 hours minimum on each axis ( $x, y, z$ )
Natural drop on a hard wood board at $75 \mathrm{~cm}, 3$ times $85 \% \mathrm{RH}$ at $+85^{\circ} \mathrm{C}$, 96 hours minimum
Dip units in solvents, 10strokes with brush, 3 times
Helium leak, <2E-8atm. Cc/sec.
100\% in De-ionized water or Perfluorocarbon for 60s. Min.
Dip in solder $\left(255^{\circ} \mathrm{C}+/-5^{\circ} \mathrm{C}\right.$ for 5 seconds. More than $95 \%$ of surface being tested should be coated uniformly with solder.
Will with stand maximum bend of $90^{\circ} \mathrm{C}$ reference to base for 2 bends.


Note: Due to the availability of raw material, this part may be manufactured with the chamfer on pin 1 or 4 . Be advised taht does not affect the elecgtrical characteristics of the crystal in any way.
P.C.B Layout


## Drawing


$17 \frac{0.03 x^{2}}{1002}$


| DRW: |  |  |  |  |  |  |  |  |  | SMD Quarz Crystal 2,0x1,6mm |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  | Part No.: | 012053 |
|  | HQ | CHKD | Wilson | MATL: | WHX | TOLERANCE | John | DATE | 19.04.2021 | Customer: |  |
| APPD: | YQ | HHQ |  | FINISH | XM |  | Sheet No. |  | 2 from 4 |  |  |

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## Ordering Informations

| Serie |  | Frequency | Frequency Tolerance (oom) | Frequency Stability (oom) | Oscillator <br> Mode | Operating Temperature | $\begin{aligned} & \text { Load } \\ & \text { Capacity } \end{aligned}$ | Rohs Conform | Packing |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 012053 |  | 26M00000 | B | 2 | A | 1 | B | R | TR |  |  |


| $\begin{gathered} \text { xMxxxxx Mhz } \\ \text { (max } 6 \\ \text { Letters) } \end{gathered}$ |  |  | A= Fund. | $\begin{aligned} & 1=-10^{\circ} \mathrm{C} \sim \\ & +50^{\circ} \mathrm{C} \end{aligned}$ | $B=10 \mathrm{pf}$ | $\mathrm{R}=$ Rohs Conform | BU= Bulk Ware |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\mathrm{B}=50 \mathrm{ppm}$ | 2= 50ppm |  | $\begin{aligned} & 2=-20^{\circ} \mathrm{C} \sim \\ & +70^{\circ} \mathrm{C} \end{aligned}$ | C= 12,5pf | N= NON Rohs Conform | TR= Tape Reel |
|  |  |  |  |  | D= 15pf |  |  |
|  | $\mathbf{C = 3 0 p p m}$ | $3=30 \mathrm{ppm}$ |  | $\begin{aligned} & 3=-40^{\circ} \mathrm{C} \sim \\ & +85^{\circ} \mathrm{C} \end{aligned}$ | E= 16pf |  |  |
|  |  |  |  |  | F= 18pf |  |  |
|  | $\mathrm{D}=20 \mathrm{ppm}$ | $4=20 \mathrm{ppm}$ |  |  | G= 20pf |  |  |
|  |  |  |  |  | $\mathrm{H}=22 \mathrm{pf}$ |  |  |
|  | $\mathrm{E}=10 \mathrm{ppm}$ | $5=10 \mathrm{ppm}$ |  |  | I= 27pf |  |  |
|  |  |  |  |  | J= 33pf |  |  |
|  |  |  |  |  | K= 33pf |  |  |
|  |  |  |  |  | L= 30pf |  |  |
|  |  |  |  |  | M= 9pf |  |  |
|  |  |  |  |  | $\mathrm{N}=12 \mathrm{pf}$ |  |  |
|  |  |  |  |  | O=6pf |  |  |


|  |  |  |  |  |  |  |  |  |  | SMD | Crystal mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  | Part No.: | 012053 |
| DRW: | HQ | CHKD | Wilson | MATL: | WHX | TOLERANCE | John | DATE | 19.04.2021 | Customer: |  |
| APPD: | YQ | HHQ |  | FINISH | XM |  | Sheet No. |  | 3 from 4 |  |  |
| www.edcon-components.com |  |  |  |  |  |  |  |  |  | email: info@edcon-components.com |  |
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## Soldering Conditions



