

客 戶

CUSTOMER:

## 送 樣 承 認 書

### Crystal Resonator datasheet

產 品 名 稱

DESCRIPTION: Quartz Crystal Resonator MC-306

產品型號 / 料號

PART NO: 32.768KHz /BD-MC-306

客 戶 料 號

Client NO:

送 樣 日 期

DATE: 2023-2-23

| 供應商審核<br>Confirmed By Ourslf                                                                                                                                                                                                                                  |           |              | 客戶確認<br>Client Confirmed |    |    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------|--------------------------|----|----|
| 品質<br>Quality                                                                                                                                                                                                                                                 | 研發<br>R/D | 公章<br>Cachet | 測試                       | 審核 | 核准 |
| 劉媛                                                                                                                                                                                                                                                            | 杜紅光       |              |                          |    |    |
| 公司地址：深圳市宝安区石岩街道园岭石环路 118 号新永丰第二工业区 1 栋六楼<br>ADD:Floor 6, building 1, Xinyongfeng No.2 Industrial Zone, No.118,<br>Yuanling Stone Ring Road, Shiyan street, Bao'an District, Shenzhen<br><br>TEL:+86-0755-86212103 FAX:+86-0755-86212112<br>手机：13480903123 李火星 |           |              |                          |    |    |

|                                 |         |    |           |     |
|---------------------------------|---------|----|-----------|-----|
|                                 | 北 迪 P/N |    | BD-MC-306 |     |
| MC-306 石英晶体谐振器                  | 客 户 P/N |    |           |     |
| Specification of quartz crystal | VER     | 01 | PAGE      | 2/7 |

目 录

CONTENT

|                            |      |
|----------------------------|------|
| 规格                         | 页次   |
| SPECIFICATIONS             | PAGE |
| 1.技术参数                     | 3    |
| ELECTRICA SPECIFICATIONS   |      |
| 2.机械特性                     | 4    |
| MECHANICAL CHARACTERISTICS |      |
| 3.印刷                       | 5    |
| MARKING                    |      |
| 4.外型尺寸                     | 6    |
| OUTLINE AND DIMENSION      |      |
| 5.内部结构                     | 7    |
| BYELAW                     |      |

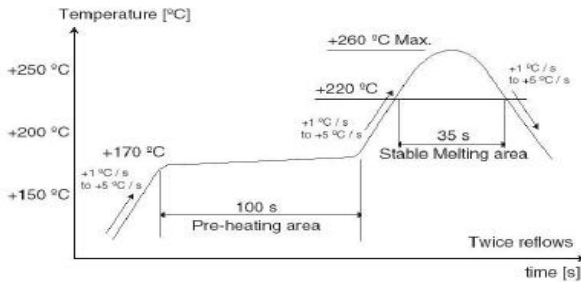
|                                                   |         |    |           |     |
|---------------------------------------------------|---------|----|-----------|-----|
|                                                   | 北 迪 P/N |    | BD-MC-306 |     |
| MC-306 石英晶体谐振器<br>Specification of quartz crystal | 客 户 P/N |    |           |     |
|                                                   | VER     | 01 | PAGE      | 3/7 |

## 1.技术参数 ELECTRICA SPECIFICATIONS

|    |                                            |                                               |
|----|--------------------------------------------|-----------------------------------------------|
| 1  | 标称频率 Nominal frequency                     | 32.768KHz                                     |
| 2  | 振荡模式 Mode of vibration                     | AT Fundamental                                |
| 3  | 负载电容 Load capacitance                      | 10.0pF                                        |
| 4  | 调整频差 Frequency tolerance                   | ±20ppm(25±5℃)                                 |
| 5  | 温度频差 Frequency temperature characteristics | -0.034±0.006ppm/℃ <sup>2</sup><br>(-40to+85℃) |
| 6  | 谐振电阻 Equivalent series resistance          | 50K Ω max                                     |
| 7  | 静 电 容 Shunt capacitance                    | 0.8pF Typ                                     |
| 8  | 绝缘电阻 Insulation resistance                 | 500MΩmin./100±15VDC                           |
| 10 | 激励电平 Drive level                           | 0.1mW                                         |
| 11 | 老 化 率 Aging                                | ±5ppm/year                                    |
| 12 | 贮存温度 Storage temperature range             | -55℃to +125℃                                  |
| 13 | 测试仪器 Test Impedance Meter                  | S&A 250B                                      |

|                                                   |         |    |           |     |
|---------------------------------------------------|---------|----|-----------|-----|
|                                                   | 北 迪 P/N |    | BD-MC-306 |     |
| MC-306 石英晶体谐振器<br>Specification of quartz crystal | 客 户 P/N |    |           |     |
|                                                   | VER     | 01 | PAGE      | 4/7 |

## 2.机械特性 MECHANICAL CHARACTERISTICS

| NO | 测试项目<br>Test item                     | 测试方法<br>Test Method                                                                                                                                  |                                     |
|----|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| 1  | 跌落<br>Shock                           | 100g dummy,Natural drop from 1500mm height on to the concrete,3 directions * 10 times                                                                | $*3\Delta f/f:\pm 8\times 10^{-6}$  |
| 2  | 振 动<br>Vibration                      | 频率 Frequency: 10-55Hz<br>峰值 Amplitude : 0.75mm<br>周期 Cycle time : 15 min (10-500-10 Hz)<br>方向 Direction : 3 mutually perpendicular planes in each 2h | $*3\Delta f/f:\pm 3\times 10^{-6}$  |
| 3  | 耐焊接热<br>Soldering                     | For convention reflow soldering furnace(2 times).                                                                                                    | $*3\Delta f/f:\pm 5\times 10^{-6}$  |
| 4  | 高温储存<br>High temperature storage      | 温度 Temperature : $+125^{\circ}\text{C} \pm 5^{\circ}\text{C}$<br>时间 Time : 1000 h $\pm$ 12h                                                          | $*3\Delta f/f:\pm 10\times 10^{-6}$ |
|    |                                       | 温度 Temperature : $+85^{\circ}\text{C} \pm 5^{\circ}\text{C}$<br>时间 Time : 1000 h $\pm$ 12h                                                           | $*3\Delta f/f:\pm 7\times 10^{-6}$  |
| 5  | 低温储存<br>Low temperature storage       | 温度 Temperature : $-55 \pm 5^{\circ}\text{C}$<br>时间 Time : 1000 h $\pm$ 12h                                                                           | $*3\Delta f/f:\pm 10\times 10^{-6}$ |
| 6  | 稳态湿热<br>High temperature and humidity | 温度 Temperature : $+85 \pm 2^{\circ}\text{C}$<br>湿度 Humidity : 85% RH<br>时间 Time : 1000 h                                                             | $*3\Delta f/f:\pm 10\times 10^{-6}$ |
| 7  | 温度循环<br>Temperature cycle             | $-55^{\circ}\text{C} \longleftrightarrow +125^{\circ}\text{C}$<br>30 minutes at each temperature *100 cycles                                         | $*3\Delta f/f:\pm 10\times 10^{-6}$ |
| 8  | 回流焊<br>Reflow                         |                                                                  | $*3\Delta f/f:\pm 10\times 10^{-6}$ |

|                                                   |         |    |           |     |
|---------------------------------------------------|---------|----|-----------|-----|
|                                                   | 北 迪 P/N |    | BD-MC-306 |     |
| MC-306 石英晶体谐振器<br>Specification of quartz crystal | 客 户 P/N |    |           |     |
|                                                   | VER     | 01 | PAGE      | 5/7 |

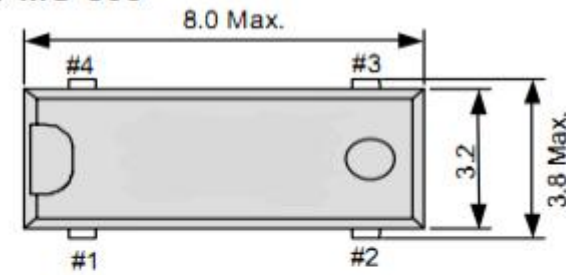
3. 印刷 Marking

Marking

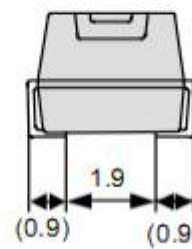
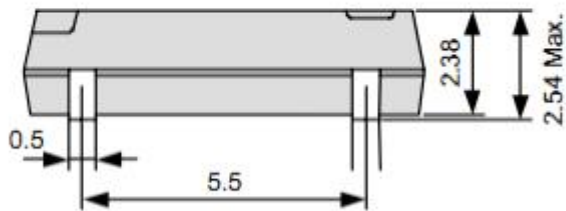
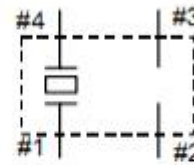
|                                                   |         |    |           |     |
|---------------------------------------------------|---------|----|-----------|-----|
|                                                   | 北 迪 P/N |    | BD-MC-306 |     |
| MC-306 石英晶体谐振器<br>Specification of quartz crystal | 客 户 P/N |    |           |     |
|                                                   | VER     | 01 | PAGE      | 6/7 |

#### 4. 外型尺寸 OUTLINE (Unit : mm)

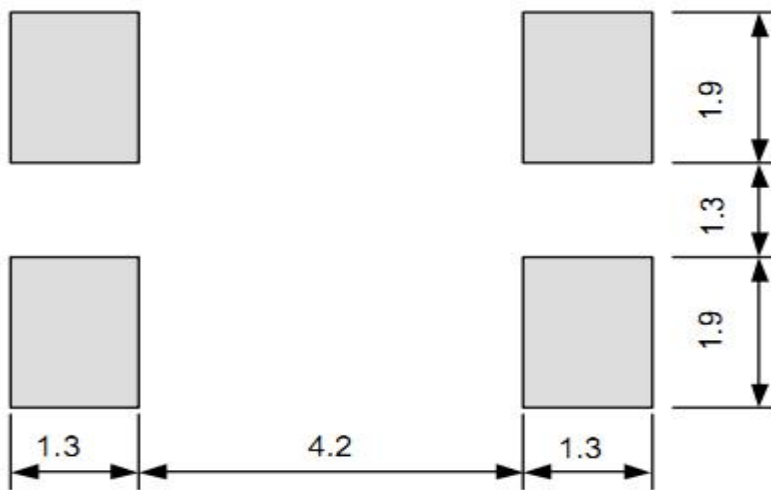
##### ● MC-306



Internal connection

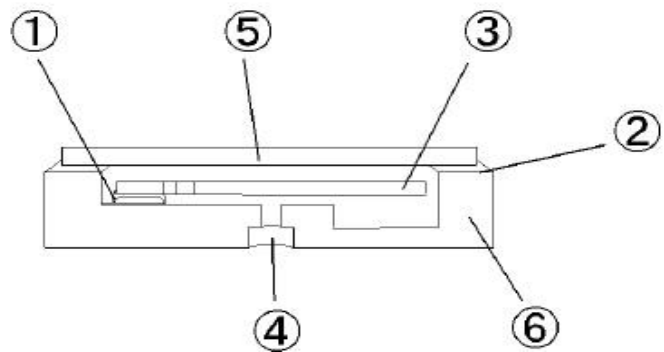
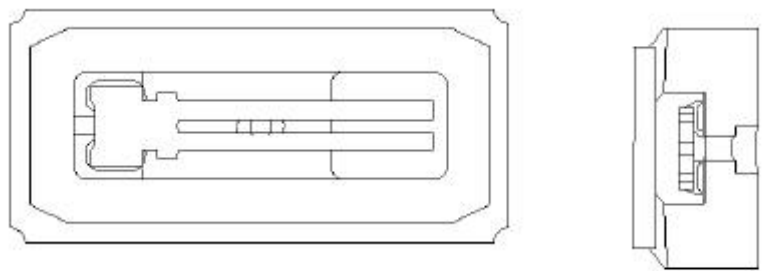


Do not connect #2 and #3 to external device.  
Metal may be exposed on the top or bottom of this product.  
This will not affect any quality, reliability or electrical spec.



|                                                   |         |    |           |     |
|---------------------------------------------------|---------|----|-----------|-----|
| D                                                 | 北 迪 P/N |    | BD-MC-306 |     |
| MC-306 石英晶体谐振器<br>Specification of quartz crystal | 客 户 P/N |    |           |     |
|                                                   | VER     | 01 | PAGE      | 7/7 |

# 5. 内部结构 BYELAW



| LIST |                  |                                           |
|------|------------------|-------------------------------------------|
|      | Name of part     | Material                                  |
| ①    | Crystal Adhesive | Ag Paste                                  |
| ②    | Sealing          | Seal Glass                                |
| ③    | Chip             | Crystal                                   |
| ④    | Sealing          | Au/Ge                                     |
| ⑤    | Lid              | Glass                                     |
| ⑥    | Package          | Ceramic (Al <sub>2</sub> O <sub>3</sub> ) |