

# SMD QUARTZ CRYSTAL SPECIFICATION

SERIES „SMD03025/4 52.000 MHZ 10/10/-20+70/10PF“

## FEATURES

- + Cheapest available miniature SMD-Crystal in ceramic package
- + High reliability for low cost
- + Optimized low ESR resonator design for fast oscillation start-up
- + Our top quality promise / depth of production:
  - Only use of crystal blanks from our in-house production
  - Excellent product features guaranteed by multiple 100% tests
  - 100% quality monitoring from crystal raw material to the end product



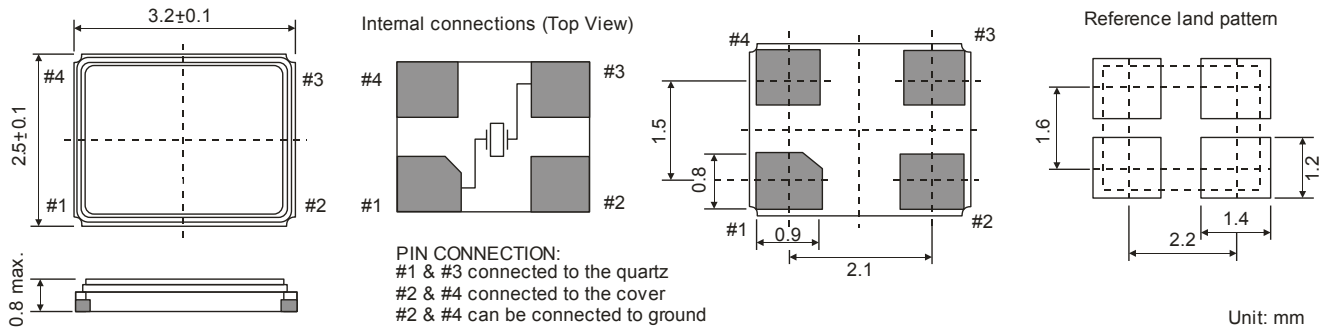
## GENERAL DATA

| PARAMETERS                             | PRODUCT FEATURES AND CONDITIONS                      |
|--|--|
| SMD-CRYSTAL SERIES                     | SMD03025/4   |
| PACKAGE HEIGHT                         | 0.8 mm max.  |
| FREQUENCY                              | 52.000 MHz   |
| MODE OF VIBRATION                      | AT-FUNDAMENTAL                                       |
| EQUIVALENT SERIES RESISTANCE           | 25 Ω max.  |
| FREQUENCY TOLERANCES AT 25°C           | ±10 ppm  |
| LOAD CAPACITANCE (CL)                  | 10 pF  |
| WORKING TEMPERATURE RANGE              | -20/+70°C  |
| TEMPERATURE STABILITY                  | ±10 ppm over -20/+70°C (referred to +25°C)           |
| SHUNT CAPACITANCE (C <sub>0</sub> )    | 2 pF max.  |
| MOTIONAL CAPACITANCE (C <sub>1</sub> ) | 4 fF max.  |
| AGING                                  | ±2 ppm after first year, ±10 ppm max. after 10 years |
| DRIVE LEVEL                            | 100 μW typ. / 200 μW max.                            |
| INSULATION RESISTANCE                  | >500 MΩ DC/100V ±15V                                 |
| STORAGE TEMPERATURE                    | -55/+125°C   |
| DELIVERY FORM                          | Tape & Reel (3.000 pcs)                              |
| RoHS                                   | Lead free and RoHS compliant                         |
| SOLDERING CONDITION                    | See reflow solder profile                            |
| MARKING                                | Line 1 = P52M10<br>Line 2 = xxxx (xxxx = date code)  |
| ORDERING CODE                          | SMD03025/4 52.000 MHz 10/10/-20+70/10pF              |
| CUSTOMER P/N                           |  |
| PETERMANN-TECHNIK P/N                  | QE9010965  |

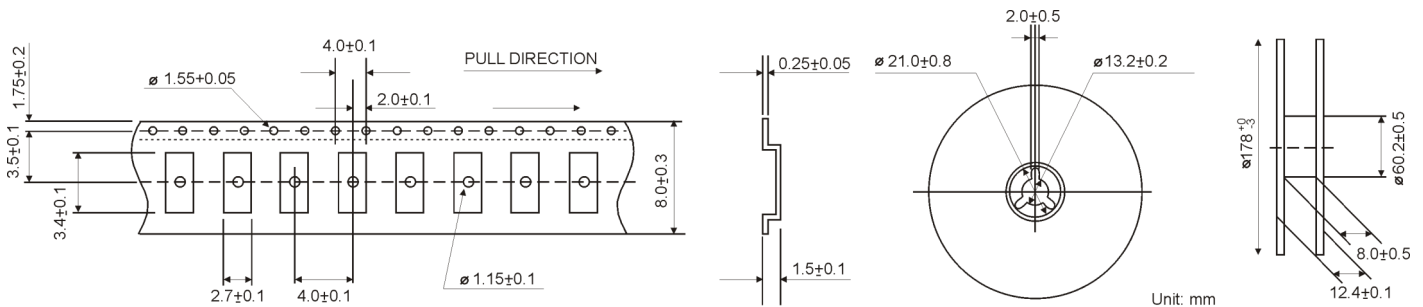
**Note:**

1. The reference temperature for all specified values and tests is +25°C.
2. Do not use cleaning baths operating at ultrasonic frequencies or ultrasonic welding processes.

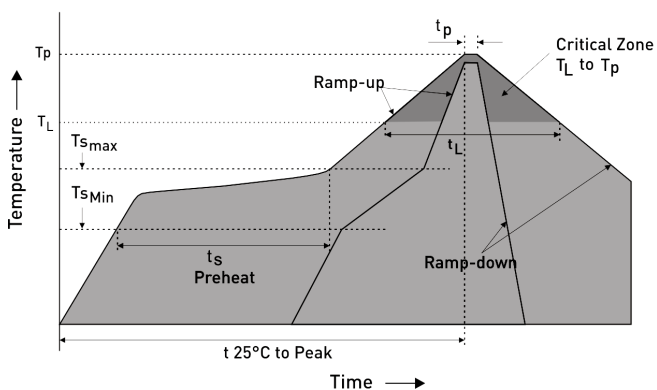
## DIMENSIONS



## REEL SPECIFICATION



## REFLOW SOLDER PROFILE



| IPC/JEDEC Standard                  | IPC/JEDEC J-STD-020 |
|-------------------------------------|---------------------|
| Moisture Sensitivity Level          | Level 1             |
| TS MAX to TL (Ramp-up Rate)         | 3°C/second Maximum  |
| Preheat                             |                     |
| - Temperature Minimum (TS MIN)      | 150°C               |
| - Temperature Typical (TS TYP)      | 175°C               |
| - Temperature Maximum (TS MAX)      | 200°C               |
| - Time (tS)                         | 60 - 180 Seconds    |
| Ramp-up Rate (TL to TP)             | 3°C/second Maximum  |
| Time Maintained Above:              |                     |
| - Temperature (TL)                  | 217°C               |
| - Time (TL)                         | 60 - 150 Seconds    |
| Peak Temperature (TP)               | 260°C Maximum       |
| Target Peak Temperature (TP Target) | 255°C               |
| Time within 5°C of actual peak (tP) | 20 - 40 seconds     |
| Max. Number of Reflow Cycles        | 2                   |
| Ramp-down Rate                      | 6°C/second Maximum  |
| Time 25°C to Peak Temperature (t)   | 8 minutes Maximum   |



## PREMIUM QUALITY BY PETERMANN-TECHNIK

OUR COMPANY IS CERTIFIED ACCORDING TO ISO 9001:2015 AND  
14001:2015



THIS IS FOR YOU TO ENSURE THAT THE PRINCIPLES OF QUALITY  
MANAGEMENT ARE FULLY IMPLEMENTED IN OUR QUALITY  
MANAGEMENT SYSTEM AND QUALITY CONTROL METHODS ALSO  
DOMINATE OUR QUALITY STANDARDS.