



**TROQ Electronic Co.,Ltd.**  
**CRYSTAL UNIT SPECIFICATIONS**

|                        |                                 |
|------------------------|---------------------------------|
| <b>Customer</b>        |                                 |
| <b>Production Name</b> | <b>SMD CRYSTAL SEAM 5.0*3.2</b> |
| <b>Customer P/N</b>    | <b>N/A</b>                      |
| <b>TROQ P/N</b>        | <b>RH20000393</b>               |
| <b>Revision</b>        | <b>A</b>                        |
| <b>Print Date</b>      | <b>2023/5/11</b>                |

| <b>Drawn</b> | <b>Checked</b> | <b>Approved</b> |
|--------------|----------------|-----------------|
|              |                |                 |



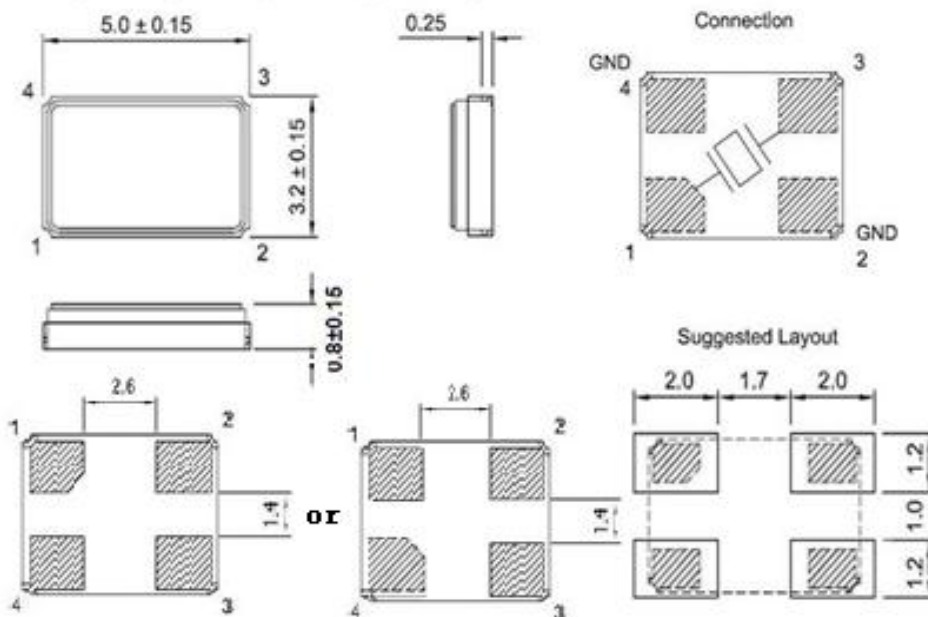
**RoHS Compliant**

**Pb used in sealing glass material is exempt from EU directive**

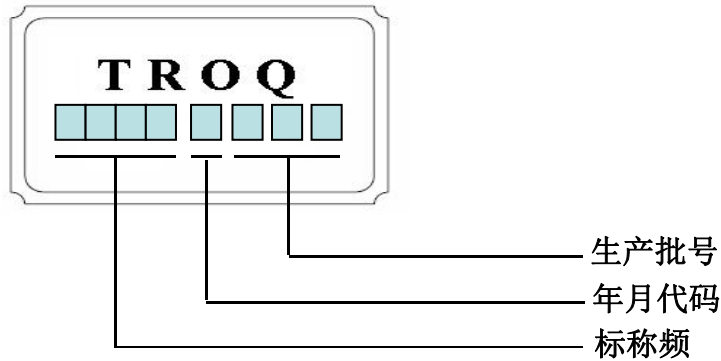
● ELECTRICAL PARAMETERS

| 谐振器产品技术指标                                    | Min          | Max | Units              |
|--|--------------|-----|--------------------|
| 1.Holder Type(型号规格)                          | SEAM 5.0*3.2 |     |                    |
| 2.Mode of Oscillation (振动模式)                 | Fundamental  |     |                    |
| 3.Frequency (标称频率)                           | 20.000000    |     | MHz                |
| 4.Load Capacitance (CL) (负载电容)               | 20           |     | pF                 |
| 5.Shunt Capacitance (Co) (静态电容)              | 0            | 5   | pF                 |
| 6.Equivalent Resistance (谐振电阻)               |              | 60  | $\Omega$           |
| 7.Frequency Tolerance at 25°C (调整频差)         | -10          | 10  | ppm                |
| 8.Stability over operation temperance (温度频差) | $\pm 10$     |     | ppm                |
| 9.Insulation Resistance (at DC 100V) (绝缘电阻)  | 500          |     | M $\Omega$         |
| 10.Drive Level (激励功率)                        | 100          |     | uw                 |
| 11.Operating Temperature Range (工作温度范围)      | -20          | 70  | $^{\circ}\text{C}$ |
| 12. Storage Temperature Range (储存温度范围)       | -40          | 85  | $^{\circ}\text{C}$ |
| 13. Aging (老化率)                              | $\pm 5$      |     | ppm/year           |
| 14.Other(其它)                                 | N/A          |     |                    |

OUTLINE DIMENSIONS(UNIT:mm) 外形尺寸 (单位: mm)



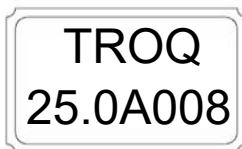
● Marking (标记)



● 年月代码

|         |   |   |   |   |   |   |   |   |   |    |    |    |
|---------|---|---|---|---|---|---|---|---|---|----|----|----|
| 2020月份  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 2020年月码 | A | B | C | D | E | F | G | H | J | K  | L  | M  |
| 2021月份  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 2021年月码 | N | P | Q | R | S | T | U | V | W | X  | Y  | Z  |
| 2022月份  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 2022年月码 | a | b | c | d | e | f | g | h | j | k  | l  | m  |
| 2023月份  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 2023年月码 | n | p | q | r | s | t | u | v | w | x  | y  | z  |

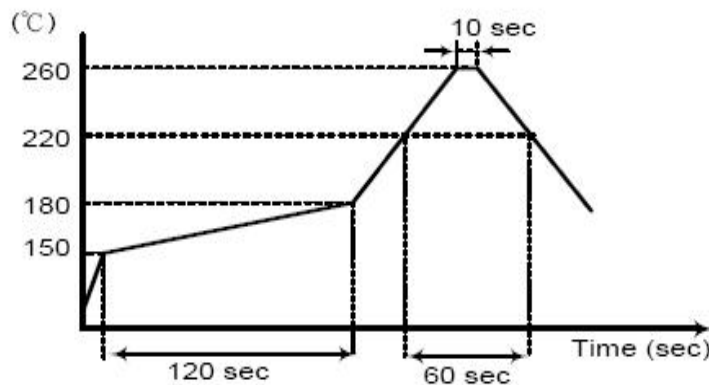
注:以上年月代码每四年一个循环。



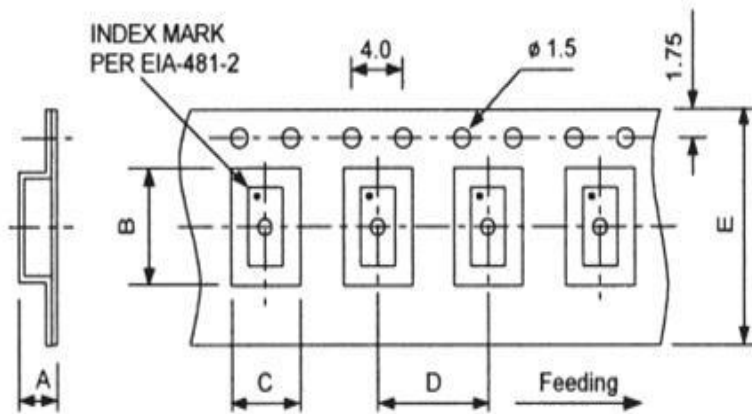
→ 说明: 标称频率 25.000MHZ  
2020年1月份制造, 生产批号为008  
上述产品标志从2012年7月1日正式执

- **SUGGESTED REFLOW PROFILE** (回流焊曲线图)  
**Total time:200sec.Max.** (总时间: 200秒 最大)  
**Solder melting point:220℃** (熔点220℃)

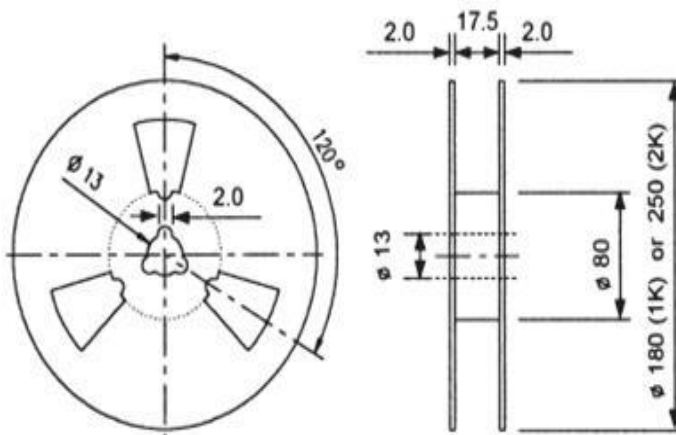
| Profiles Feature (特性)                                |  | Pb-Free Assembly |
|--|--|------------------|
| Average Ramp-up Rate(Ts max to Tp)平均升温速度             |  | 3℃/second Max    |
| Preheat 预热   |  |                  |
| ■ Temperature Min (Ts min) 最低温度                      |  | 125℃             |
| ■ Temperature Max (Ts max) 最高温度                      |  | 200℃             |
| ■ Time (ts min to ts max) 从最低到最高时间                   |  | (60~180) seconds |
| Time maintained above 维持上述时间                         |  |                  |
| ■ Temperature(T1) 温度                                 |  | 217℃             |
| ■ Time(tp) 时间  |  | (60~150) seconds |
| Peak/Classification Temperature(Tp) 最高点温度            |  | 260℃             |
| Time within 5℃ of actual Peak Temperature(tp) 高温维持时间 |  | (20~40) seconds  |
| Ramp-down rate 降温速度                                  |  | 6℃/second max    |
| Time 25℃ to Peak Temperature 从25℃到最高温度的时间            |  | 8 minutes max    |
| Suggest reflow times 建议 reflow次数                     |  | 3 Times max      |



- PACKING (包装) 1Kpcs/REEL



| SIZE |      |
|------|------|
| A    | 1.7  |
| B    | 5.45 |
| C    | 3.65 |
| D    | 8.0  |
| E    | 12.0 |
| IK   |      |



REMARK :

1. 230 mm (9.05) minimum leader which consist of carrier and/or cover tape followed by a minimum of 160 mm (6.3) of empty carrier tape sealed with cover tape.
2. 160 mm (6.3) minimum trailer of empty carrier tape sealed with cover tape.

● RELIABILITY SPECIFICATIONS (信赖度试验)

| No | Test Item (测试项目)                                     | Test Conditions (测试条件)  | Reference (参考)                         |
|----|--|---|--|
| 1  | High Temperature High Humidity Storage<br>(高温、高湿、储存) | Temperature: 85°C±3°C<br>温度: 85°C±3°C<br>Relative Humidity: 85%RH<br>相对湿度: 85%RH<br>Time: 96 Hours<br>时间: 96小时  | JIS C5023                              |
| 2  | High Temperature Storage<br>(高温储存)                   | Temperature: 125°C±3°C<br>温度: 125°C±3°C<br>Time: 96 Hours<br>时间: 96小时   | MIL-STD-883E<br>Method 1005.8          |
| 3  | Low Temperature Storage<br>(低温储存)                    | Temperature: -40°C±3°C<br>温度: -40°C±3°C<br>Time: 96Hours<br>时间: 96小时  | MIL-STD-883E<br>Method 1013            |
| 4  | Thermal Shock<br>(温度冲击)                              | Temperature1: -55°C±5°C<br>温度1: -55°C±5°C<br>Temperature2: 85°C±5°C<br>温度2: 85°C±5°C<br>Temperature change between T1 and T2 5 min<br>T1和T2温度在5分钟内改变<br>10cycles maintain T1 and T2 for 30 minutes each mon<br>每次循环30分钟共10次 | MIL-STD-202F<br>Method 107 Condition A |
| 5  | RESISTANCE TO SOLDER HEAT<br>(耐焊接热)                  | Solder Temperature: 260°C±5°C<br>焊槽温度: 260°C±5°C<br>Time: 10±1 Seconds<br>时间: 10±1秒   | MIL-STD-202F<br>Method 210E            |
| 6  | Solderability(可焊性)                                   | The solder pot temperature is 245±5°C , dwell tim<br>245±5°C焊锡槽浸润5±0.5秒   | J-STD-002B                             |
| 7  | Drop Test<br>(落下试验)                                  | 3 Times Free Fall from 75cm height table to 3cm<br>thickness hard wood board<br>从75cm高度3次跌落到3cm厚硬质木板上   | JIS C6701                              |
| 8  | MECHANICAL SHOCK<br>(机械冲击)                           | Half sine wave, 1000 G<br>半正弦波, 加速度1000G<br>3 Times for all 3 directions<br>X、Y、Z 三个相互垂直方向各三次   | MIL-STD-202F<br>Method 213B            |
| 9  | Vibration<br>(机械振动)                                  | Frequency Range: 10Hz~55Hz<br>频率范围: 10Hz~55Hz<br>Amplitude: 0.75mm<br>振幅: 0.75mm<br>2 Hours in each direction, total 6 Hours<br>X、Y、Z 三个相互垂直方向各振动2小时  | MIL-STD-883E<br>Method 2007.3          |
| 10 | Leakage Test<br>(气密性)                                | Take measurements with a helium<br>Leakage detector<br>氦质检漏<br>Leakage Rate ≤ 1×10 <sup>-3</sup> Pa cm <sup>3</sup> /s<br>漏率 ≤ 1×10 <sup>-3</sup> Pa cm <sup>3</sup> /s   | MIL-STD-883E                           |

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Crystals](#) category:*

*Click to view products by [TROQ](#) manufacturer:*

Other Similar products are found below :

[CX3225GB25000M0PPSZ1](#) [718-13.2-1](#) [7A-40.000MAAE-T](#) [FL2000085](#) [99-BU](#) [9B-15.360MBBK-B](#) [9C-7.680MBBK-T](#) [H10S-12.000-18-EXT-TR](#) [ABC2-6.000MHZ-D4Z-T](#) [ABLS-20.000MHZ-D2-T](#) [ABS071-32.768KHZ-6-T](#) [R38-32.768-12.5-5PPM-NPB](#) [21U15A-21.4MHZ](#) [RTX-781DF1-S-20.950](#) [LFXTAL066198Cutt](#) [9C-14.31818MBBK-T](#) [A-11.000MHZ-27](#) [ABL-27.000MHZ-B4Y-T](#) [ABM11-132-24.000MHZ-T3](#) [ABM3B1-25.000MHZ-D2Y-T](#) [SPT2A-.032768B](#) [SPT2A.032768G](#) [SSPT7F-9PF20-R](#) [LFXTAL065253Cutt](#) [LFXTAL066431Cutt](#) [XT9S20ANA14M7456](#) [XT9SNLANA16M](#) [7A-24.576MBBK-T](#) [7B-30.000MBBK-T](#) [CX2520DB16000H0HPQCC](#) [MMCC2R32.7680KHZ](#) [6504-202-1501](#) [6526-202-1501](#) [ABLS-12.000MHZ-B2Y-T](#) [7A-10.000MBBK-T](#) [SG636PCE-20.000MC](#) [3404](#) [CM315D32768EZFT](#) [C1E-24.000-7-2020-R](#) [C1E-19.200-12-1530-X-R](#) [C1E-16.000-12-1530-X-R](#) [ABM11-16.000MHZ-9-B1U-T](#) [FL5000014](#) [EUCA18-3.1872M](#) [FX0800015](#) [425F35E027M0000](#) [FP0800018](#) [MS3V-T1R-32.768kHz-7pF-20PPM-TA-QC-Au](#) [VXM7-1C1-16M000](#) [MS3V-T1R-32.768kHz-9pF-20PPM-TA-QC-Au](#)