

**SPECIFICATION SHEET**

|                                |  |
|--------------------------------|--|
| <b>SPECIFICATION SHEET NO.</b> | Q0301- XB14M74560S412  |
| <b>DATE</b>                    | March 01, 2023   |
| <b>REVISION</b>                | A0   |
| <b>DESCRIPTION</b>             | MHz SMD Crystal, Seam Seal, L7.0*W5.0*H1.1mm, 4 Pads, CM75 series<br>14.7456MHz, Tolerance +/-30ppm, Load Capacitor 12pF,<br>Frequency stability +/-30ppm @Operating Temp. Range -40°C ~+85°C,<br>ESR 50 ohm Max, Reflow Profile Condition 260 °C Max.<br>Tape/Reel, 1000pcs/Reel<br>RoHS/RoHS III compliant |
| <b>CUSTOMER</b>                |  |
| <b>CUSTOMER PART NUMBER</b>    |  |
| <b>CROSS REF. PART NUMBER</b>  |  |
| <b>ORIGINAL PART NUMBER</b>    | TGS CM75 14M7456A30-12-30-40-50TLF   |
| <b>PART CODE</b>               | XB14M74560S412   |

|                         |   |  |   |
|-------------------------|---|--|---|
| <b>VENDOR APPROVE</b>   |   |  |   |
| Issued/Checked/Approved |  |  |  |
| DATE: March 01, 2023    |   |  |   |

|                         |  |
|-------------------------|--|
| <b>CUSTOMER APPROVE</b> |  |
|                         |  |
| DATE:                   |  |

03/01/2023

**MAIN FEATURE**

- SMD Crystal, Seam Seal, L7.0\*W5.0\*H1.1mm, 4 pads
- Low cost, High precision, High frequency stability
- Reflow Profile Condition 260 °C Max.
- Cross more competitors part
- RoHS/RoHS III compliant



**APPLICATION**

- Bluetooth, wireless communication set
- Communication Electronics

**PART CODE GUIDE**

**RFQ**  
Request For Quotation

| XB | 14M74560 | S | 412 |
|----|----------|---|-----|
| 1  | 2        | 3 | 4   |

- 1) XB: Part family Code for SMD Crystal, Seam Seal, L7.0\*W5.0\*H1.1mm, 4 pads (CM75)
- 2) 14M74560: Frequency range code for 14.7456MHz
- 3) S: SMD type, Package Tape/Reel, 1000pcs/Reel
- 4) 412: Specification code for original part No.: **TGS CM75 14M7456A30-12-30-40-50TLF**

**DIMENSION (Unit: mm)**

Image for reference



CM75



**Marking**  
standard



**Connection**  
#1 Crystal  
#2 Ground  
#3 Crystal  
#4 Ground



**Recommend Pad Layout**



**SMD CRYSTAL 7050 TYPE 4 PADS**
**ELECTRICAL PARAMETERS**

| Parameter                            | Part No. Symbol         | Units  | Value              |         |      | Condition             |
|--------------------------------------|-------------------------|--|--------------------|---------|------|-----------------------|
|                                      |                         |  | Min.               | Typical | Max. |                       |
| Original Manufacturer                | TGS                     | TGS Crystals                                     |                    |         |      |                       |
| Holder Type                          | CM75                    | SMD Crystal, Seam Seal, L7.0*W5.0*H1.1mm, 4 pads |                    |         |      |                       |
| Frequency Range                      | 14M7456                 | MHz  | 14.7456            |         |      |                       |
| Mode of Oscillation                  | A                       | AT Fundamental                                   |                    |         |      |                       |
| Frequency Tolerance                  | 30                      | ppm  | -30                |         | +30  | @25°C                 |
| Load Capacitance                     | -12                     | pF   | 12                 |         |      |                       |
| Stability over Operation Temperature | -30                     | ppm  | -30                |         | +30  |                       |
| Operation Temperature                | -40                     | °C   | -40                |         | +85  |                       |
| Storage Temperature                  |                         | °C   | -55                |         | +125 |                       |
| Equivalent Series Resistance (ESR)   | -50                     | Ω  |                    |         | 50   |                       |
| Drive Level                          |                         | μW   |                    |         | 300  |                       |
| Shunt Capacitance (C0)               |                         | pF   | 0                  |         | 7.0  |                       |
| Motional Capacitance (C1)            |                         | fF   | N/A                |         |      |                       |
| DLD2                                 |                         | Ω  | N/A                |         |      |                       |
| FLD2                                 |                         | ppm  | N/A                |         |      |                       |
| RDL2                                 |                         | Ω  | N/A                |         |      |                       |
| SPDB                                 |                         | dB   | N/A                |         |      |                       |
| Aging                                |                         | ppm/year   |                    |         | ±3   | @1 <sup>st</sup> year |
| Insulation Resistance                |                         | MΩ   | 500                |         |      | @100VDC<br>± 15VDC    |
| Others                               | Package                 | T  | Tape/Reel          |         |      |                       |
|                                      | RoHS Status             | LF   | RoHS III compliant |         |      |                       |
|                                      | Add Value               |  | N/A                |         |      |                       |
|                                      | Internal Control Code * |  | N/A                |         |      |                       |

Note: 1) Original Part Number: **TGS CM75 14M7456A30-12-30-40-50TLF**

2) \* Internal Control Code- 2 letter or digits; Blank: N/A

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**MECHANICAL PERFORMANCE**

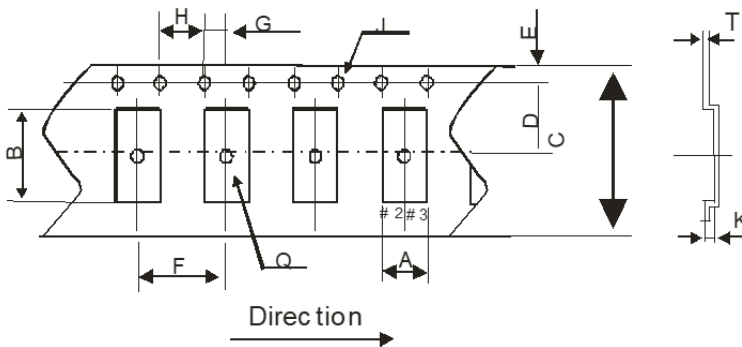
| Item                             | Condition   | Standard  |
|----------------------------------|---|---|
| Drop characteristics             | Free drop from 75cm height on a hard wooden board for 3 times. (Board is thickness more than 30 mm.)                        | Frequency change:<br>≤5ppm<br>Rr as specification |
| Shake characteristics            | Shake frequency 10~55Hz, cyc1~2 minutes, swing 1.5mm, direction x/y/z, all 30 minutes, test after 1 hours.                  | Frequency change:<br>≤5ppm<br>Rr as specification |
| Airproof characteristics         | Put crystal into the pressure cabin with alcohol, keep pressure 0.4~0.5mpa 10 minutes, then take out and blow for 5 minutes | IR≥500MΩ  |
| Weld characteristics             | 260±5°C, 3 seconds  | 90% exhibit tin ok                                |
| Humidity characteristics         | +40±2°C & 90%~95% R.H. 250 hours  | Frequency change:<br>≤5ppm<br>Rr as specification |
| Low temperature characteristics  | -30±2°C, 250 hours, put in room temperature, test after 1 hours.  | Frequency change:<br>≤5ppm<br>Rr as specification |
| High temperature characteristics | +85±2°C, 250 hours, put in room temperature, test after 1 hours.  | Frequency change:<br>≤5ppm<br>Rr as specification |
| Temperature cycling              | -30±3°C/30±3 min~+85±2°C/30±3min, 5 cycles  | Frequency change:<br>≤5ppm<br>Rr as specification |

**SUGGESTED REFLOW PROFILE (For Reference Only)**



**TAPE/REEL (Unit: mm)**

All Devices are packed in accordance with EIA standard RS-481-2 and specifications., 1000pcs/Reel



|   |                       |
|---|-----------------------|
| A | 5.4±0.1               |
| B | 7.4±0.1               |
| C | 16.0±0.2              |
| D | 7.5±0.1               |
| E | 1.75±0.1              |
| F | 8.0±0.1               |
| G | 2.0±0.1               |
| H | 4.0±0.1               |
| J | 1.55±0.05             |
| K | 1.4±0.1               |
| Q | 1.6 <sup>+0.1/0</sup> |
| T | 0.3±0.05              |

| Item         |               | Empty Space    |
|--------------|---------------|----------------|
| Tapa Leader  | Cover Tape    | Min.500mm      |
|              | Empty Pockets | Min.20 pockets |
| Tape Trailer | Cover Tape    | Min.0mm        |
|              | Empty Pockets | Min.40mm       |

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