




SPECIFICATION SHEET

| | |
|--------------------------------|--|
| SPECIFICATION SHEET NO. | Q0301- XB27M00000S412 |
| DATE | March 01, 2023 |
| REVISION | A0 |
| DESCRIPTION | MHz SMD Crystal, Seam Seal, L7.0*W5.0*H1.1mm, 4 Pads, CM75 series 27.0000MHz, Tolerance +/-30ppm, Load Capacitor 12pF, Frequency stability +/-30ppm @Operating Temp. Range -40°C ~+85°C, ESR 30 ohm Max, Reflow Profile Condition 260 °C Max. Tape/Reel, 1000pcs/Reel RoHS/RoHS III compliant |
| CUSTOMER | |
| CUSTOMER PART NUMBER | |
| CROSS REF. PART NUMBER | |
| ORIGINAL PART NUMBER | TGS CM75 27M0A30-12-30-40-30TLF |
| PART CODE | XB27M00000S412 |

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

| | |
|-------------------------|--|
| CUSTOMER APPROVE | |
| | |
| 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 | 27M00000 | 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) 27M00000: Frequency range code for 27.0000MHz
- 3) S: SMD type, Package Tape/Reel, 1000pcs/Reel
- 4) 412: Specification code for original part No.: **TGS CM75 27M0A30-12-30-40-30TLF**

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 | 27M0 | MHz | 27.0000 | | | |
| 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) | -30 | Ω | | | 30 | |
| 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 st year |
| Insulation Resistance | | MΩ | 500 | | | @100VDC ± 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 27M0A30-12-30-40-30TLF**

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

03/01/2023

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: ≤5ppm 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: ≤5ppm 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: ≤5ppm Rr as specification |
| Low temperature characteristics | -30±2°C, 250 hours, put in room temperature, test after 1 hours. | Frequency change: ≤5ppm Rr as specification |
| High temperature characteristics | +85±2°C, 250 hours, put in room temperature, test after 1 hours. | Frequency change: ≤5ppm Rr as specification |
| Temperature cycling | -30±3°C/30±3 min~+85±2°C/30±3min, 5 cycles | Frequency change: ≤5ppm 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 ^{+0.1/0} |
| 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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