




**SPECIFICATION SHEET**

|                                |   |
|--------------------------------|---|
| <b>SPECIFICATION SHEET NO.</b> | N0216-RC50M00000S300  |
| <b>DATE</b>                    | Feb. 16, 2021   |
| <b>REVISION</b>                | A0  |
| <b>DESCRIPTION</b>             | SMD Oscillator, 0705 Type, L7.0*W5.0*H1.50mm, 4 Pads, COM75 series<br>50.0000MHz, 3.3V, +/-50ppm, Symmetry 45/55, Operating Temp. Range<br>-40°C ~+85°C, Reflow Profile Condition 260 °C Max.<br>HCMOS//15pF, , Supply Current 70mA Max Tristate via Pad 1,<br>Tape/Reel, RoHS/RoHS III compliant |
| <b>CUSTOMER</b>                |   |
| <b>CUSTOMER PART NUMBER</b>    |   |
| <b>CROSS REF. PART NUMBER</b>  |   |
| <b>ORIGINAL PART NUMBER</b>    | TGS COM7531BGI03 TLF-50M000   |
| <b>PART CODE</b>               | RC50M00000S300  |

|                         |   |  |   |
|-------------------------|---|--|---|
| <b>VENDOR APPROVE</b>   |   |  |   |
| Issued/Checked/Approved |  |  |  |
| DATE: Feb. 16, 2021     |   |  |   |

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

**MHZ SMD OSCILLATOR 0705 TYPE 4 PADS**

**MAIN FEATURE**

- SMD Package, Seam Sealed, 0705 Type, L7.0\*W5.0\*H1.50mm, 4 Pads,
- Low noise and Low current
- Industry standard
- Reflow Profile Condition 260 °C Max.
- Cross more competitors part
- RoHS/RoHS III compliant



**APPLICATION**

- PDA, PND, DSC, Smart phone, WiLAN, Bluetooth and more
- Communication Electronics

**RFQ**  
[Request For Quotation](#)

**PART CODE GUIDE**

|           |                 |          |            |
|-----------|-----------------|----------|------------|
| <b>RC</b> | <b>50M00000</b> | <b>S</b> | <b>300</b> |
| 1         | 2               | 3        | 4          |

- 1) RC: Part family Code for SMD Oscillator, 0705 Type, L7.0\*W5.0\*H1.50mm, 4 Pads, COM75 series
- 2) 50M00000: Frequency range code for 50.00000MHz
- 3) S: SMD type, Package Tape/Reel, 1000pcs/Reel
- 4) 300: Specification code for original part No.: **TGS COM7531BGI03 TLF-50M000**

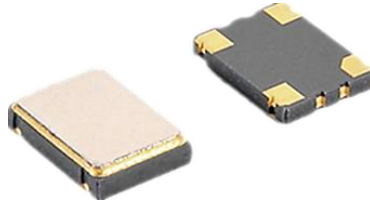
**MORE FREQUENCY RANGE AVAILABLE (MHz)**

|        |        |        |        |        |         |        |        |        |         |
|--------|--------|--------|--------|--------|---------|--------|--------|--------|---------|
| 2.0480 | 20.000 | 24.000 | 25.000 | 27.000 | 40.0000 | 48.000 | 50.000 | 100.00 | 125.000 |
|        |        |        |        |        |         |        |        |        |         |
|        |        |        |        |        |         |        |        |        |         |
|        |        |        |        |        |         |        |        |        |         |
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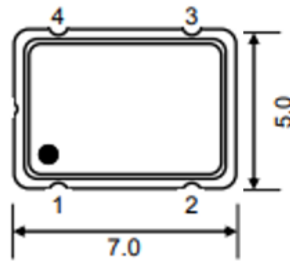
**MHZ SMD OSCILLATOR 0705 TYPE 4 PADS**

**DIMENSION (Unit: mm, Tol. +/-0.15mm)**

Image for reference



COM75

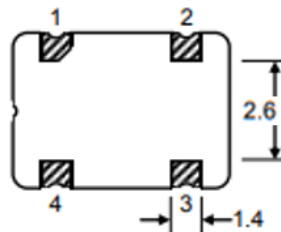


**Marking 1**

Line 1: Company Code + Supply Voltage  
Line 2: Freq. Range + QC Code (A~Z)

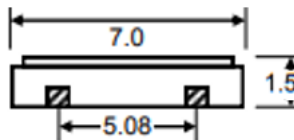
**Marking 2**

Line 1: Frequency Range

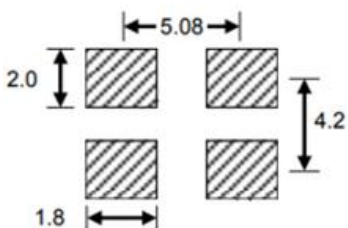


**Pin Function**

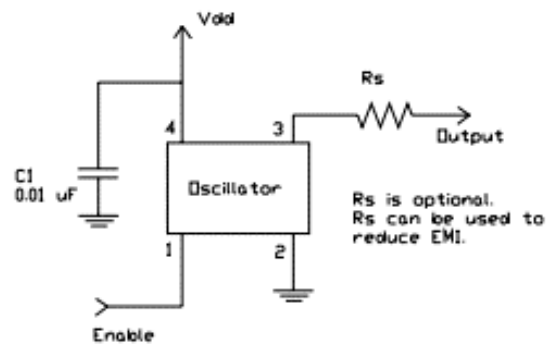
- #1 Enable (Tri-State)
- #2 Ground
- #3 Output
- #4 VDD



**Recommend Pad Layout**



**Circuit Principle**



**MHZ SMD OSCILLATOR 0705 TYPE 4 PADS**
**ELECTRICAL PARAMETERS**

| Parameter                      |                                | Part No. Symbol | Units  | Value      |         |                     | Condition             |
|--------------------------------|--------------------------------|-----------------|--|------------|---------|---------------------|-----------------------|
|                                |                                |                 |  | Min.       | Typical | Max.                |                       |
| <b>Original Manufacturer</b>   |                                | TGS             | TGS Crystals   |            |         |                     |                       |
| <b>Holder Type</b>             |                                | COM75           | SMD Oscillator, 0705 Type, L7.0*W5.0*H1.50mm, 4 Pads |            |         |                     |                       |
| <b>Supply Voltage</b>          |                                | 3               | V  | 3.3        |         | +/-10%              |                       |
| <b>Enable/Disable Function</b> |                                | 1               |  | Tri-State  |         | @ Control via pin 1 |                       |
| <b>Overall Freq. Tolerance</b> |                                | B               | ppm  | -50        |         | +50                 | @25°C                 |
| <b>Operating Temp. Range</b>   |                                | G               | °C   | -40        |         | +85                 |                       |
| <b>Storage Temp. Range</b>     |                                |                 | °C   | -55        |         | +125                |                       |
| <b>Symmetry</b>                |                                | I               | %  | 45         |         | 55                  |                       |
| <b>Output</b>                  | <b>V OH</b>                    |                 | V  | 90%        |         |                     | High (Logic "1")      |
|                                | <b>V OL</b>                    |                 | V  |            |         | 10%                 | Low (Logic "0")       |
|                                | <b>Load</b>                    |                 | pF   | 15         |         |                     |                       |
| <b>Output Waveform</b>         |                                | 03              |  | HCMOS      |         |                     | @OutputLoad 15pF      |
| <b>Startup Time</b>            |                                |                 | ms   |            |         | 10                  |                       |
| <b>Supply Current</b>          |                                |                 | mA   |            |         | 70                  |                       |
| <b>Rise/ Fall time</b>         |                                |                 | ns   |            |         | 10                  |                       |
| <b>Phase Jitter</b>            |                                |                 | ps   |            |         | 1.0                 | @12KHz~20MHz          |
| <b>Aging</b>                   |                                |                 | ppm/year   |            |         | ±3                  | @1 <sup>st</sup> year |
| <b>Others</b>                  | <b>Package</b>                 | T               | Tape/Reel  |            |         |                     |                       |
|                                | <b>RoHS Status</b>             | LF              | RoHS III compliant                                   |            |         |                     |                       |
|                                | <b>Add Value</b>               |                 | N/A  |            |         |                     |                       |
|                                | <b>Internal Control Code *</b> |                 | N/A  |            |         |                     |                       |
| <b>Frequency Range</b>         |                                | -50M00          |  | 50.0000MHz |         |                     |                       |

Note: 1) Original Part Number: **TGS COM7531BGI03 TLF-50M00**

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

**MHZ SMD OSCILLATOR 0705 TYPE 4 PADS**

**RELIABILITY**

| Test Items                                    | Test Method And Conditions  | Reference Documents                       |
|---|---|---|
| <b>High Temperature High Humidity Storage</b> | Temperature: 85°C±3°C<br>Relative Humidity:85%RH<br>Time: 96 Hours  | JIS C5023                                 |
| <b>High Temperature Storage</b>               | Temperature: 125°C±3°C<br>Time: 96 Hours.   | MIL-STD-883E<br>Method 1005.8             |
| <b>Low Temperature Storage</b>                | Temperature: -40°C±3°C<br>Time: 96 Hours.   | MIL-STD-883E<br>Method 1013               |
| <b>Thermal Shock</b>                          | Temperature 1: -55°C±5°C<br>Temperature 2: 85°C±5 °C<br>Temperature change between T1 and T2 5 min<br>10cycles maintain T1 and T2 for 30 minutes each cycle | MIL-STD-202F<br>Method 107<br>Condition A |
| <b>Resistance to Solder Heat</b>              | Solder Temperature: 260°C±5°C<br>Time: 10±1 Seconds   | MIL-STD-202F<br>Method 210E               |
| <b>Solderability</b>                          | The solder pot temperature is 245±5°C , dwell time 5±0.5sec   | J-STD-002B                                |
| <b>Drop Test</b>                              | 3 Times Free Fall from 50cm height table to 3cm thickness hard wood board   | J-STD-002B                                |
| <b>Mechanical Shock</b>                       | Half sine wave,1000 G<br>3 Times for all 3 directions(X,Y Z)  | MIL STD 202F<br>Method 213B               |
| <b>Vibration</b>                              | Frequency Range: 10Hz ~ 55Hz<br>Amplitude: 0.75mm<br>2 Hours in each direction, total 6 Hours   | MIL-STD-883E<br>Method 2007.3             |
| <b>Leakage Test</b>                           | Take measurements with a helium Leakage detector<br>Leakage Rate≤1×10 <sup>-3</sup> Pa cm <sup>3</sup> /s   | MIL-STD-883E                              |

**MHZ SMD OSCILLATOR 0705 TYPE 4 PADS**

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

Total time: 200 Sec. Max. Solder melting point: 220°C

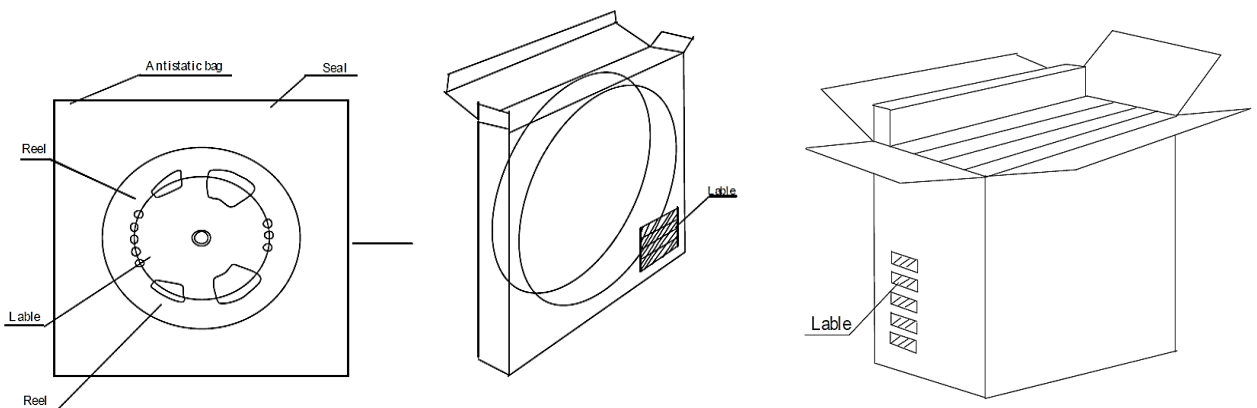
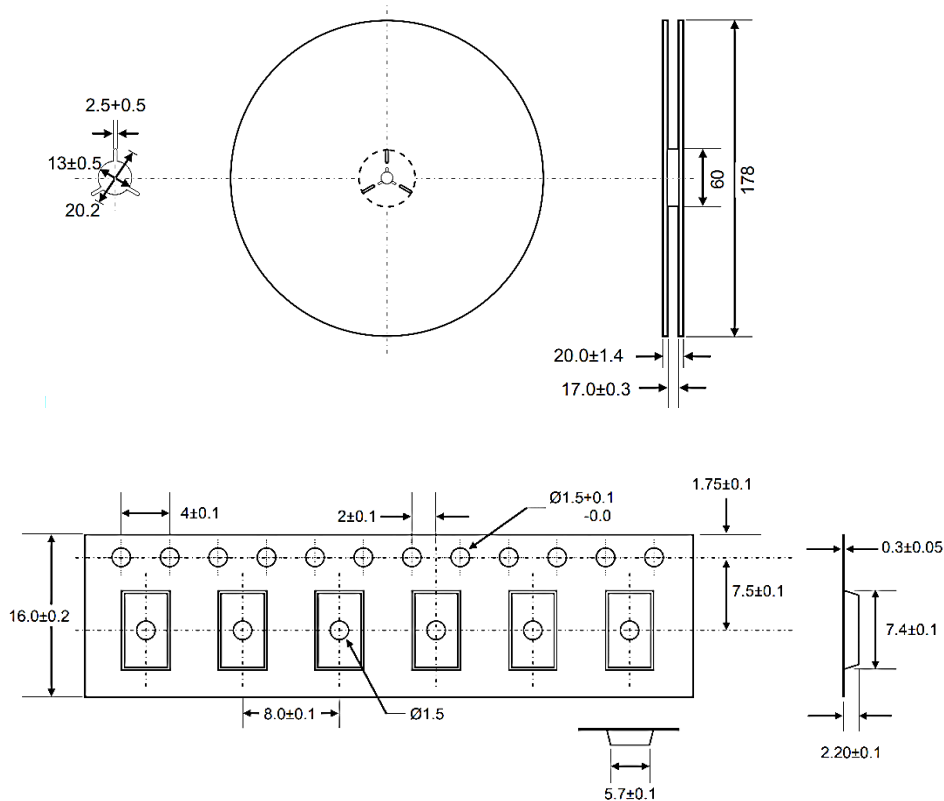


|  |                                  |                   |
|--|----------------------------------|-------------------|
| <b>Profile Feature</b>                                 |                                  | Pb-Free Assembly  |
| <b>Average Ramp-up Rate (Ts Max to Tp)</b>             |                                  | 3°C/second Max    |
| <b>Preheat</b>   | <b>Temperature Min (Ts Min.)</b> | 125°C             |
|  | <b>Temperature Max (Ts Max.)</b> | 200°C             |
|  | <b>Time (ts Min. to ts Max.)</b> | 60 ~ 180 seconds  |
| <b>Time maintained above</b>                           | <b>Temperature (Tl)</b>          | 217°C             |
|  | <b>Time (tL)</b>                 | 60 ~ 150 seconds  |
| <b>Peak/Classification Temperature (Tp)</b>            |                                  | 260 °C            |
| <b>Time within 5°C of actual Peak Temperature (tp)</b> |                                  | 20 ~ 40 seconds   |
| <b>Ramp-down rate</b>                                  |                                  | 6 °C /Second Max. |
| <b>Time 25 °C to Peak Temperature</b>                  |                                  | 8 minutes Max.    |
| <b>Suggest reflow times</b>                            |                                  | 3 Times Max.      |

**MHZ SMD OSCILLATOR 0705 TYPE 4 PADS**

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

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



**DISCLAIMER**

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