

SPECIFICATION SHEET

| | |
|--------------------------------|---|
| SPECIFICATION SHEET NO. | Q0113- RA24M00000L515 |
| DATE | Jan. 13, 2023 |
| REVISION | A0 |
| DESCRIPTION | <p>MHz Thru-Hole Crystal Oscillator, L20.8*W13.2*H5.08mm</p> <p>Full- Size/14 pin, CO14 series</p> <p>24.0000MHz, 5.0V, +/-50ppm, Symmetry 45/55,</p> <p>Operating Temp. Range -40°C ~+85°C,</p> <p>HCMOS//50pF, Supply Current 20mA Max, Tristate function - Enable</p> <p>Thru-Hole type, Packed in Tube, 25pcs/Tube</p> <p>RoHS/RoHS III compliant</p> |
| CUSTOMER | |
| CUSTOMER PART NUMBER | |
| CROSS REF. PART NUMBER | |
| ORIGINAL PART NUMBER | TGS CO1451BGI05 BLF-24M000 |
| PART CODE | RA24M00000L515 |

VENDOR APPROVE

Issued/Checked/Approved



DATE: Jan. 13, 2023

CUSTOMER APPROVE

DATE:

1/13/2023

MHZ THRU-HOLE CRYSTAL OSCILLATOR CO14 SERIES

MAIN FEATURE

- MHz Thru-Hole Crystal Oscillator L20.8*W13.2*H5.08mm
- Industry-standard
- Hermetically sealed package for reliability
- Tristate function -Enable
- Cross more competitors part
- RoHS/RoHS III compliant



APPLICATION

- Communication Electronics

PART CODE GUIDE

RFQ

[Request For Quotation](#)

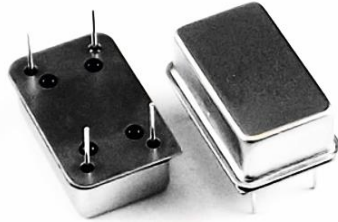
| RA | 24M00000 | L | 515 |
|----|----------|---|-----|
| 1 | 2 | 3 | 4 |

- 1) RA: Part family Code for MHz Thru-Hole Crystal Oscillator, L20.8*W13.2*H5.08mm, Full-Size/14 pin, CO14 series
- 2) 24M00000 Frequency range code for 24.00000MHz
- 3) L: Thru Hole type, Packed in Tube, 25pcs/Tube
- 4) 515: Specification code for original part No.: **TGS CO1451BGI05 BLF-24M000**

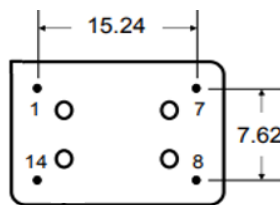
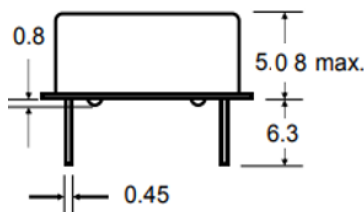
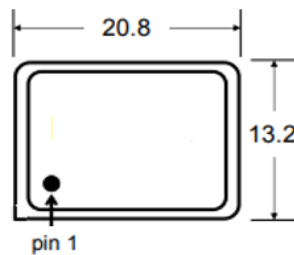
MHZ THRU-HOLE CRYSTAL OSCILLATOR CO14 SERIES

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

Image for reference



CO14



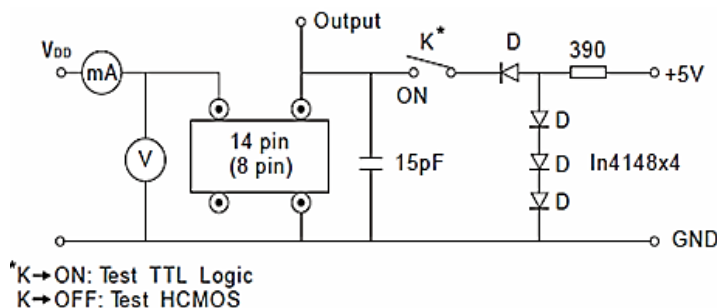
Marking

Line 1: 24.0000
Line 2: Special Code

Pin Function

- #1 Tristate Enable Via #1
- #4 Ground
- #5 Output
- #8 VDD

Circuit Principle



MHZ THRU-HOLE CRYSTAL OSCILLATOR CO14 SERIES
ELECTRICAL PARAMETERS

| Parameter | | Part No. Symbol | Units | Value | | | Condition |
|--|--------------------------------|-----------------|--|----------------------------|---------|---------------------|-----------------------|
| | | | | Min. | Typical | Max. | |
| Original Manufacturer | | TGS | TGS Crystals | | | | |
| Holder Type | | CO14 | MHz Thru-Hole Crystal Oscillator, CO14 Series, L20.8*W13.2*H5.08mm, Full-Size/14 pin | | | | |
| Supply Voltage | | 5 | V | 5.0 | | +/-10% | |
| Enable/Disable -Tristate Function | | 1 | | Tristate function - Enable | | @ Control via pin 1 | |
| Overall Freq. Tolerance | | B | ppm | -50 | | +50 | @25°C |
| Operating Temp. Range | | G | °C | -40 | | +85 | |
| Storage Temp. Range | | | °C | -55 | | +125 | |
| Symmetry | | I | % | 45 | | 55 | |
| Output | V OH | | V | 90% | | | High (Logic "1") |
| | V OL | | V | | | 10% | Low (Logic "0") |
| | Load | | pF | 50 | | | |
| Output Waveform | | 05 | | HCMOS | | | @OutputLoad 50pF |
| Startup Time | | | ms | | | 10 | |
| Supply Current | | | mA | | | 20 | |
| Rise/ Fall time | | | ns | | | 10 | |
| Phase Jitter | | | ps | | N/A | | |
| Aging | | | ppm/year | | | ±3 | @1 st year |
| Others | Package | B | Thru - Hole type, Packed in Tube, 25pcs/Tube | | | | |
| | RoHS Status | LF- | RoHS III compliant | | | | |
| | Add Value | | N/A | | | | |
| | Internal Control Code * | | N/A | | | | |
| Frequency Range | | 24M000 | 24.0000MHz | | | | |

Note: 1) Original Part Number: TGS CO1451BGI05 BLF-24M000

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

1/13/2023

4

MHZ THRU-HOLE CRYSTAL OSCILLATOR CO14 SERIES

ENVIRONMENTAL AND TECHNICAL CONDITIONS

| Test Items | Test Method And Conditions |
|------------------------------|---|
| Temperature Cycle | Mil-std 883, Method 1010, 10 Cycles -20° C To 85° C |
| Shock | Mil-std-202, Method 213, Test Condition C |
| Vibration | Mil-std-202, Method 204, Test Condition A |
| Resistance To Soldering Heat | Mil-std-202, Method 210, Test Condition B |
| Humidity | 85% Relative Humidity At 85° C 250 Hours |
| Gross Leak Test | Mil-std-883, Method 1014, Test Condition C |
| Fine Leak Test | Mil-std-883, Method 1014, Test Condition A |
| Terminal Strength | Mil-std-202, Method 211, Test Condition A And C |
| Moisture Resistance | Moisture Resistance Mil-std 202, Method 106, Omit Step 7b |
| Solderability | Mil-std-202, Method 208, 95% Coverage |
| Solvent Resistance | Mil-std-202, Method 2002, Method 215 |

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