

**SPECIFICATION SHEET**

<b>SPECIFICATION SHEET NO.</b>	Q0114- RB4M096000L515
<b>DATE</b>	Jan. 14, 2023
<b>REVISION</b>	A0
<b>DESCRIPTION</b>	MHz Thru-Hole Crystal Oscillator, L13.2*W13.2*H5.08mm, Half-Size/8 pin, CO8 series 4.096000MHz, 5.0V, +/-50ppm, Symmetry 45/55, Operating Temp. Range -40°C ~+85°C, HCMOS//50pF, Supply Current 20mA Max, Tristate Via Pin 1 Thru-Hole type, Packed in Tube, 40pcs/Tube RoHS/RoHS III compliant
<b>CUSTOMER</b>	
<b>CUSTOMER PART NUMBER</b>	
<b>CROSS REF. PART NUMBER</b>	
<b>ORIGINAL PART NUMBER</b>	TGS CO851BGI05 BLF-4M0960
<b>PART CODE</b>	RB4M096000L515

**VENDOR APPROVE**

Issued/Checked/Approved



DATE: Jan. 14, 2023

**CUSTOMER APPROVE**

DATE:

1/14/2023

## MHZ THRU-HOLE CRYSTAL OSCILLATOR CO8 SERIES

### MAIN FEATURE

- MHz Thru-Hole Crystal Oscillator, L13.2\*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](#)

RB	4M096000	L	515
1	2	3	4

- 1) RB: Part family Code for MHz Thru-Hole Crystal Oscillator, L13.2\*W13.2\*H5.08mm, Half-Size/8 pin, CO8 series
- 2) 4M096000: Frequency range code for 4.096000MHz
- 3) L: Thru Hole type, Packed in Tube, 40pcs/Tube
- 4) 515: Specification code for original part No.: **TGS CO851BGI05 BLF-4M0960**

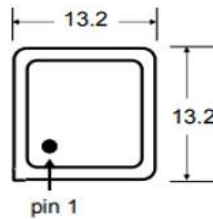
**MHZ THRU-HOLE CRYSTAL OSCILLATOR CO8 SERIES**

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

Image for reference



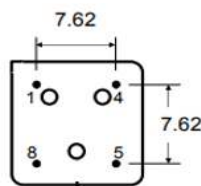
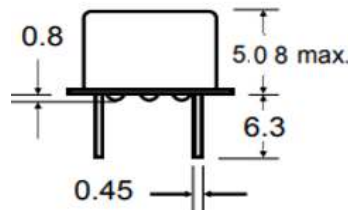
CO8



**Marking 1**

Line 1: 4.0960

Line 2: Special Code



**Pin Function**

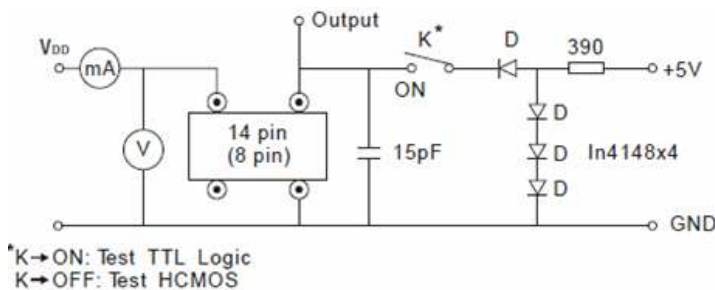
#1 Tristate Enable Via #1

#4 Ground

#5 Output

#8 VDD

**Circuit Principle**



**MHZ THRU-HOLE CRYSTAL OSCILLATOR CO8 SERIES**
**ELECTRICAL PARAMETERS**

Parameter		Part No. Symbol	Units	Value			Condition
				Min.	Typical	Max.	
<b>Original Manufacturer</b>		TGS	TGS Crystals				
<b>Holder Type</b>		CO8	MHz Thru-Hole Crystal Oscillator, CO8 Series, L13.2*W13.2*H5.08mm, Half-Size/8 pin				
<b>Supply Voltage</b>		5	V	5.0		+/-10%	
<b>Enable/Disable -Tristate Function</b>		1		Tristate function - Enable		@ 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	50			
<b>Output Waveform</b>		05		HCMOS			@OutputLoad 50pF
<b>Startup Time</b>			ms			10	
<b>Supply Current</b>			mA			20	
<b>Rise/ Fall time</b>			ns			10	
<b>Phase Jitter</b>			ps		N/A		
<b>Aging</b>			ppm/year			±3	@1 <sup>st</sup> year
<b>Others</b>	<b>Package</b>	B	Thru - Hole type, Packed in Tube, 40pcs/Tube				
	<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>		4M0960	4.096000MHz				

Note: 1) Original Part Number: **TGS CO851BGI05 BLF-4M0960**

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

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**MHZ THRU-HOLE CRYSTAL OSCILLATOR CO8 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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