

SPECIFICATION SHEET

SPECIFICATION SHEET NO.	Q1114- RF50M00000S300	
DATE	Nov. 14, 2023	
REVISION	A2	Updated With Most Recent Data
DESCRIPTION AND MAIN PARAMETRICS	<p>SMD Oscillator, 2520 Type, L2.5*W2.0*H1.0mm, 4 Pads, COM22 series 50.0000MHz, 3.3V, +/-50ppm, Symmetry 45/55, Operating Temp. Range -40°C ~+85°C, Reflow Profile Condition 260 °C Max. HCMOS//15pF, Supply Current 20mA Max, Tristate function - Enable via Pad 1, Packed in Tape/Reel, 3000pcs/Reel RoHS/RoHS III compliant</p>	
CUSTOMER		
CUSTOMER PART NO.		
CROSS REF. PART NO.		
ORIGINAL MFG/PART NO.	TGS COM2231BGI01 TLF-50M000	
PART CODE	RF50M00000S300	

VENDOR APPROVE

Issued/Checked/Approved



DATE: Nov. 14, 2023

CUSTOMER APPROVE

DATE:

11/14/2023

MHZ SMD OSCILLATOR 2520 TYPE 4 PADS

MAIN FEATURE

- SMD Package, Seam Sealed, 2520 Type, L2.5*W2.0*H1.0mm, 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

PART CODE GUIDE

RFQ
Request For Quotation

RF	50M00000	S	300
1	2	3	4

1. RF: Part family Code for SMD Oscillator, 2520 Type, L2.5*W2.0*H1.0mm, 4 Pads, COM22 series
2. 50M00000: Frequency range code for 50.00000MHz
3. S: SMD type, Package Tape/Reel, 3000pcs/Reel
4. 300: Internal Control Code or special Parameters code letter A~Z or digits (1-9)

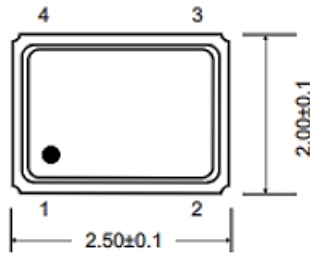
MHZ SMD OSCILLATOR 2520 TYPE 4 PADS

DIMENSION (Unit: mm)

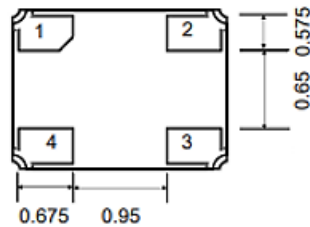
Image for reference



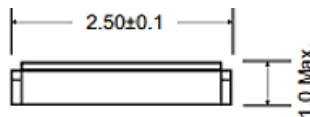
COM22



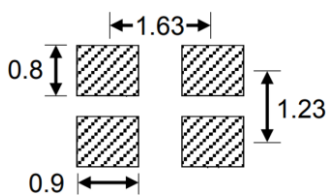
Marking
Frequency Range



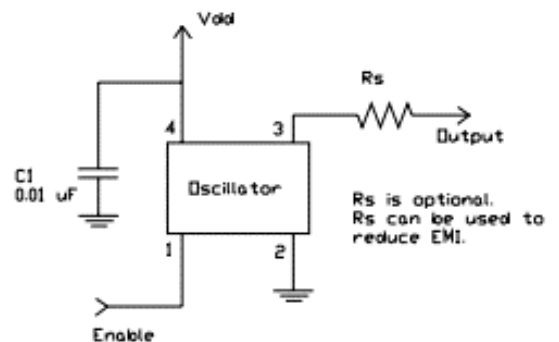
Pin Function
#1 Enable (Tri-State)
#2 Ground
#3 Output
#4 VDD



Recommend Pad Layout



Circuit Principle



MHZ SMD OSCILLATOR 2520 TYPE 4 PADS
ELECTRICAL PARAMETERS

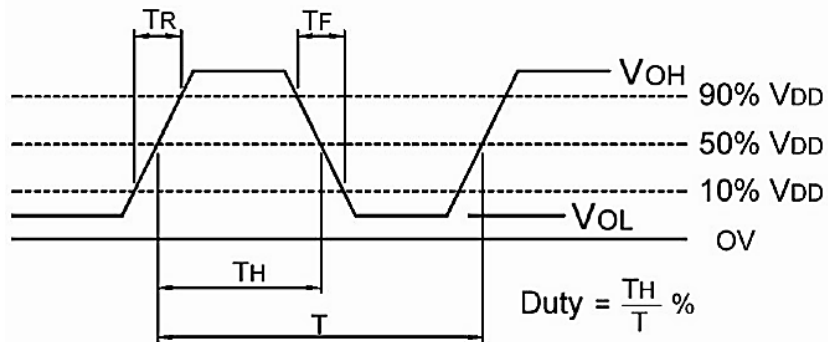
Parameter		Part No. Symbol	Units	Value			Condition
				Min.	Typical	Max.	
Original Manufacturer		TGS	TGS Crystals				
Holder Type		COM22	SMD Oscillator, 2520 Type, L2.5*W2.0*H1.0mm, 4 Pads,				
Supply Voltage		3	V	3.3		+/-10%	
Enable / Disable Function	Output Active	1	V	/		Tristate function - Enable @ Control via pin 1	
	Output in High-Impedance state				/		
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	15			
Output Waveform		01		HCMOS		@OutputLoad 15pF	
Startup Time			ms		10		
Supply Current			mA		20	@ Max.supply voltage	
Rise/ Fall time			ns		10		
Phase Jitter			ps		1.0	@12KHz~20MHz	
Aging			ppm/year		±3	@1 st year	
Others	Package	T	Tape/Reel				
	RoHS Status	LF	RoHS III compliant				
	Add Value		N/A				
	Internal Control Code *		N/A				
Frequency Range		-50M000	50.0000MHz				

MHZ SMD OSCILLATOR 2520 TYPE 4 PADS
RELIABILITY

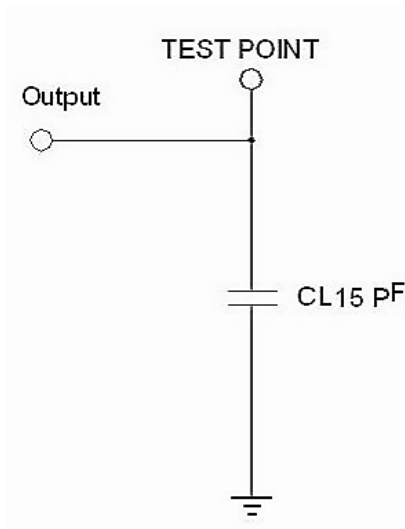
TEST ITEMS	TEST METHOD AND CONDITIONS	REFERENCE DOCUMENTS
High Temperature High Humidity Storage	Temperature: 85°C±3°C Relative Humidity:85%RH; Time: 1000 Hours	JIS C5023
High Temperature Storage	Temperature: 125°C±3°C; Time: 1000+/-12 Hours.	MIL-STD-883
Low Temperature Storage	Temperature: -40°C±3°C; Time: 1000+/-12 Hours	MIL-STD-883
Thermal Shock	Temperature 1: -125°C±3°C; Temperature 2: -55°C±3 °C Temperature change between T1 and T2 10 min 100 cycles maintain T1 and T2 for 10 Min. each cycle	MIL-STD-883, 1010 Condition B
Resistance to Solder Heat	Solder Temperature: 260°C±5°C; Time: 10±1 Seconds	MIL-STD-202
Solderability	The solder pot temperature is 245±5°C Immersing Depth: 0.5mm Min.; Immersion Time: 5 ± 1 sec. Flux: Rosin resin methyl alcohol solvent (1:4)	MIL-STD-883
Drop Test	3 Times Free Fall from 75cm height table to 3cm thickness hard wood board	JIS C6701
Mechanical Shock	Half sine wave,1000 G; 3 Times for all 3 directions(X,Y Z)	MIL-STD-883 2002 Condition B
Vibration	Frequency Range: 10Hz ~ 2000Hz Amplitude: 1.52m/20G; Sweep time: 20 minutes 4 Hours in each direction, total 12 Hours	MIL-STD-883 3 2007 Condition A
Leakage Test	Gross leak: standard sample for automatic gross leak detector, test pressure: 2 kg/cm ² Fine leak: Helium Bomging 4.5kgf/cm ² for 2 hours	MIL-STD-883
Pressure cooker storage	121°C±3°C, RH 100%; 2 bar, 240 hours	JIS C6701

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OUTPUT WAVEFORM (CMOS LOAD)

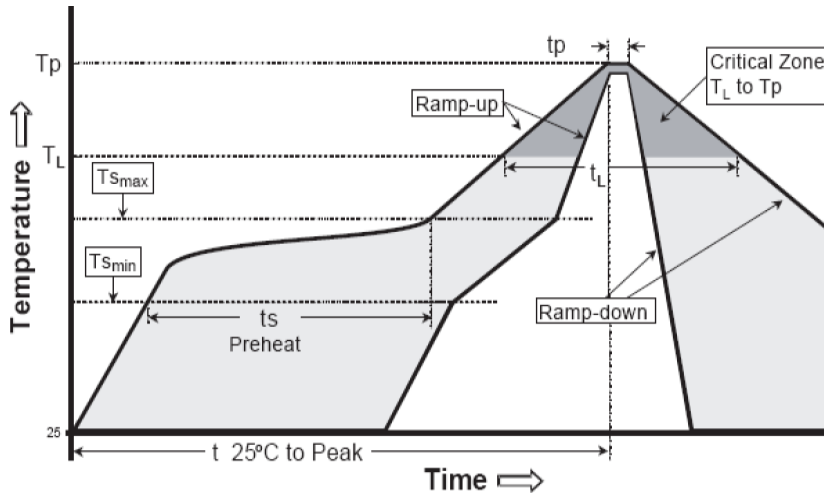


TEST CIRCUIT (CMOS LOAD)



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SUGGESTED REFLOW PROFILE (For Reference Only)

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

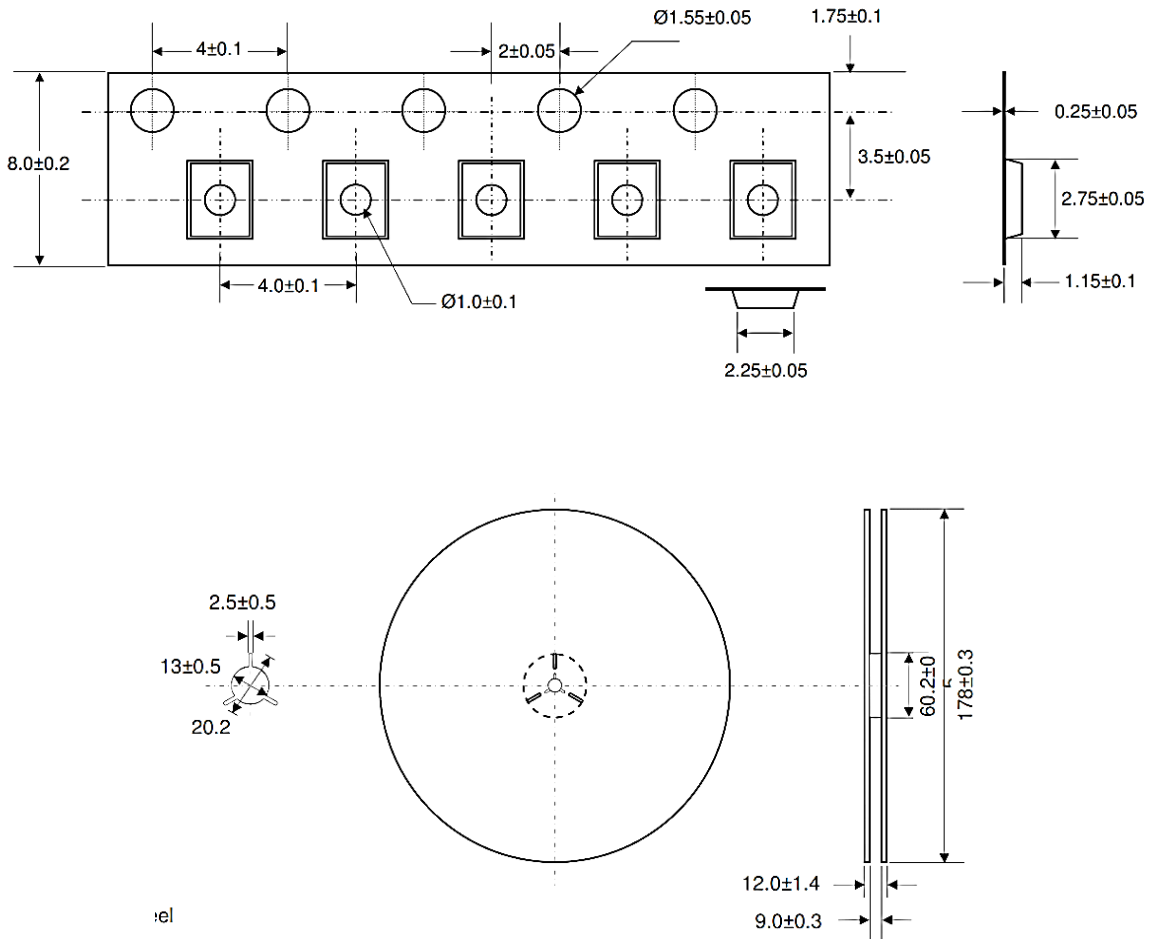


PROFILE FEATURE		PB-FREE ASSEMBLY
Average Ramp-up Rate (Ts Max to Tp)		3°C/second Max
Preheat	Temperature Min (Ts Min.)	125°C
	Temperature Max (Ts Max.)	200°C
	Time (ts Min. to ts Max.)	60 ~ 180 seconds
Time maintained above	Temperature (Tl)	217°C
	Time (tl)	60 ~ 150 seconds
Peak/Classification Temperature (Tp)		260 °C
Time within 5°C of actual Peak Temperature (tp)		20 ~ 40 seconds
Ramp-down rate		6 °C /Second Max.
Time 25 °C to Peak Temperature		8 minutes Max.
Suggest reflow times		3 Times Max.

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TAPE/REEL (Unit: mm)

All Devices are packed in accordance with EIA standard RS-481-2 and specifications, 3000pcs/Reel



DISCLAIMER

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11/14/2023