NextGen Components,Inc.

PART CODE: YR32K76800S004

SPECIFICATION SHEET

SPECIFICATION SHEET NO.	N0721- YR32K76800S004
DATE	July 21, 2021
REVISION	A0
DESCRIPITION	KHz SMD Crystals, L3.2*W1.5*H0.9mm, 2 Pads, CCMM series 32.76800KHz, +/-20ppm, CL 6pF Operating Temp. Range -40°C ~+85°C, ESR 70 Kohm Max, Reflow Profile Condition 260 °C Max. Tape/Reel, 3000pcs/Reel, RoHS/RoHS III compliant
CUSTOMER	
CUSTOMER PART NUMBER	
CROSS REF. PART NUMBER	
ORIGINAL PART NUMBER	TGS CCMM 32K768A20-6-40-70T LF
PART CODE	YR32K76800S004

VENDOR APPROVE	
Issued/Checked/Approved	  
DATE: July 21, 2021	

CUSTOMER APPROVE
DATE:

NextGen Components,Inc.

PART CODE: **YR32K76800S004**

KHZ SMD CRYSTALS CCMM SERIES 3215 TYPE

MAIN FEATURE

- SMD Package, CCMM Series, L3.2*W1.5*H0.9mm, 2 Pads
- Industry standard
- Reflow Profile Condition 260 °C Max.
- Cross more competitors part
- RoHS/RoHS III compliant

APPLICATION

- Small communications devices and more

RFQ
Request For Quotation

PART CODE GUIDE

YR	32K76800	S	004
1	2	3	4

1) YR: Part family Code for KHz SMD crystal L3.2*W1.5*H0.9mm, 2 Pads, CCMM series

2) 32K76800: Frequency range code for 32.76800KHz

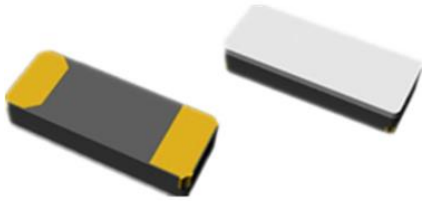
3) S: SMD type, Package Tape/Reel, 3000pcs/Reel

4) 004: Specification code for original part No.: **TGS CCMM 32K768A20-6-40-70T LF**

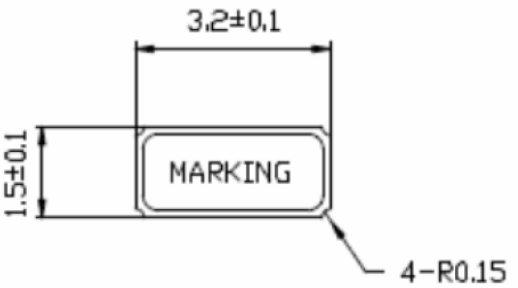
KHZ SMD CRYSTALS CCMM SERIES 3215 TYPE

DIMENSION (Unit: mm)

Image for reference



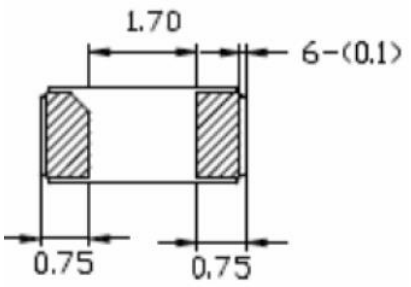
CCMM

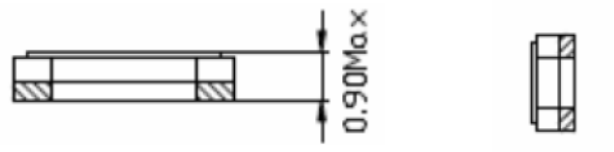


Marking
Frequency Range

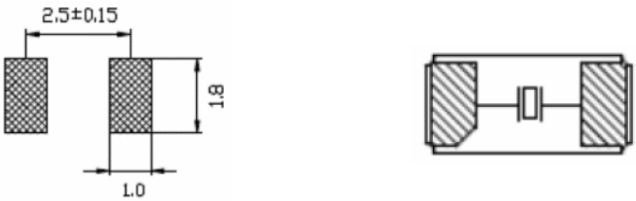
or

Marking
Internal Control Code



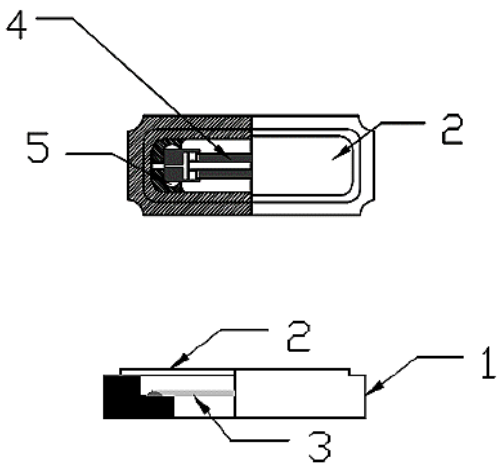


Land Pattern for reference



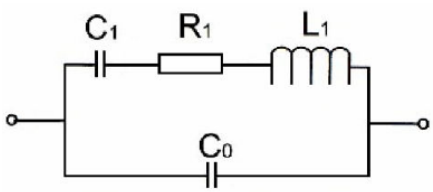
KHZ SMD CRYSTALS CCMM SERIES 3215 TYPE

PRODUCT STRUCTURE



Item No.	Component Name	Material Name
1	Crystal Case	Ceramic (A1203)
2	Crystal Cover/Lid	KV (Fe/Co/Ni)
3	Crystal Chip/Blank	SiO2
4	Electrode	Au, Ag
5	Adhesive	Resin, Ag

EQUIVALENT CIRCUIT



NOTES BEFORE USE

Ultrasonic Cleaning:

General cleaning solutions or ultrasonic cleaning method may be used to clean our products. However, under certain circumstances, ultrasonic cleaning machine could generate resonance at the oscillation frequency of our products and thus deteriorate the electrical characteristics in device and even damage the overall structure of device. Therefore, verification test is recommended before cleaning.

Ultrasonic Welding

Avoid mounting and processing by Ultrasonic welding this method has a possibility of an excessive vibration spreading inside the crystal products and become the cause of characteristic deterioration and not oscillating.

Storage Temperature Description

Storage Temperature is only for the product itself, the temperature for the packing material is 5~40°C

Recommended Conditions for Manual Welding Max. Temperature: 350±10°C, Time: 3 sec Max., Re-solder time: twice Max.

KHZ SMD CRYSTALS CCMM SERIES 3215 TYPE

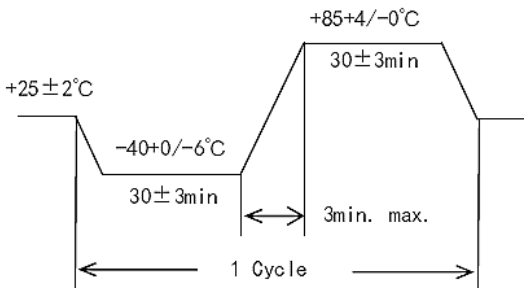
ELECTRICAL PARAMETERS

Parameter		Part No. Symbol	Units	Value			Condition
				Min.	Typical	Max.	
Original Manufacturer		TGS	TGS Crystals				
Holder Type		CCMM	KHz SMD Crystal L3.2*W1.5*H0.9mm, 2 Pads				
Frequency Range		32K768	KHz	32.76800			
Mode of Oscillation		A		AT Fundamental			
Frequency Tolerance		20	ppm	-20		+20	@25°C
Load Capacitance		-6	pF	6			
Frequency/Temp Coefficient			ppm/°C²	-0.02	-	0.04	
Operation Temperance		-40	°C	-40		+85	
Storage Temperance			°C	-55		+125	
Equivalent Series Resistance (ESR)		-70	KΩ			70	
Drive Level			µW			0.5	
Shunt Capacitance (C0)			pF		1.1	2.0	
Dynamic Capacitance (C1)			fF		4.1		
Turnover Temp			°C	+20	+25	+30	
Quality Factor				60000			
Capacitance Ratio				450			
Aging			ppm/year			±3	@1st year
Insulation Resistance			MΩ	500			@100VDC ± 15VDC
Other	**Package**	T	Tape/Reel, 3000pcs/Reel				
	RoHS Status	LF	RoHS III compliant				
	Add Value		N/A				
	Special Code*		2 letter or digits; Blank: N/A				

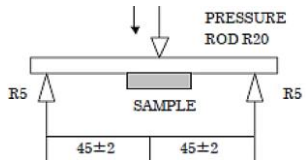
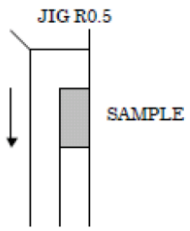
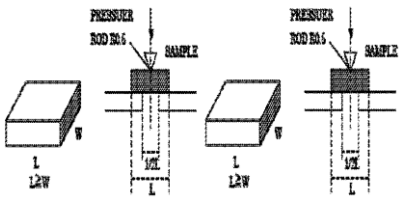
Note: 1) Original Part Number: **TGS CCMM 32K768A20-6-40-70T LF**

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

RELIABILITY

Test Items	Test Method And Conditions	Test Standard
High Temperature High Humidity Storage	Temperature: 60℃ ± 2 ℃ Relative Humidity: 90%~95% RH For Time: 500 ± 12 Hours	A, C, D, G
High Temperature Storage	Temperature: 125℃ ± 2℃ Time: 1000±12 Hours.	B, C, G
Low Temperature Storage	Temperature: -40℃ ± 2℃ Time: 500 ± 12 Hours.	A, C, G
Temperature Cycle	The crystal unit shall be subjected to 100 successive change of temperature cycles. 	A, C, G
Solderability	The solder pot temperature is 260±5℃ , dwell time 2±0.6sec	F
Drop Test	Height: 180 cm; Dropped Cycle: 3 cycles; Drop it on to a concrete board for 6 Directions (X,Y,Z), that should be 1 cycle	B, C
Vibration	Frequency Range: 10Hz ~ 55Hz Amplitude: 1.5mm±15%; Sweep time: 2~3 Minutes, 2 Hours in each direction, total 6 Hours	A, C
Leakage Test	Helium Bombing 5.0 ~5.5 Kgf/cm²; for 2 hours	E

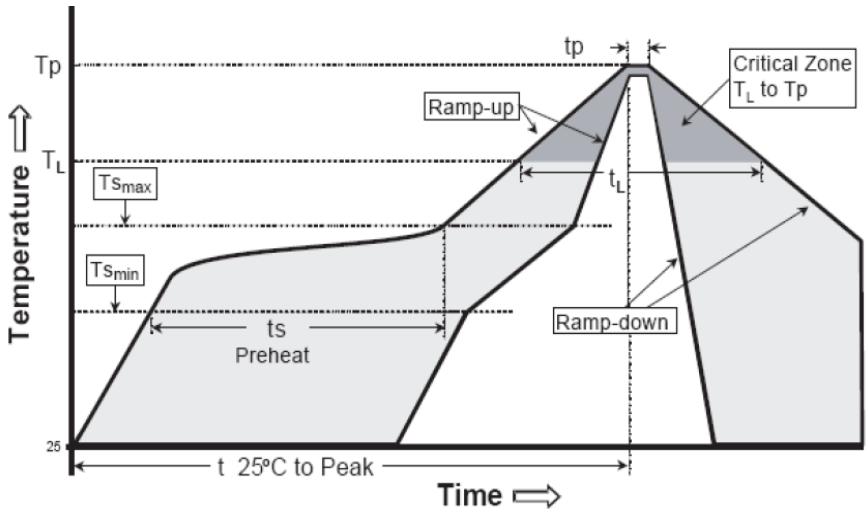
RELIABILITY

Test Items	Test Method And Conditions	Test Standard
Terminal Strength	Shall be pressurized at a speed of approx. 0.5mm/sec. in the direction indicated by the arrow unit the bending width reaches 3mm and held for 5 sec. 	B, C
Sticking Tendency	A R0.5 Jig shall be used to apply a 10N dead load in the direction indicated by the arrow to the element and retain it for 10 sec. 	B, C
Element Assembly Strength	A R0.5 Jig shall be used to apply a 10N dead load in the direction indicated by the arrow to the element and retain it for 10 sec. 	B, C

TEST STANDARD

Test Standard Symbol	Specification	Value
A	Frequency Change permitted	ΔF≤10ppm
B	Frequency Change permitted	ΔF≤20ppm
C	Equivalent Series Resistance Change Permitted	ΔCI≤5KΩ or 20%
D	Insulation Resistance	>500 MΩ
E	Leak Rate Less than	<1*1E-9 Pa・m³/sec.
F	A new uniform coating of solder shall cover a Min 95% of the crystal surface	
G	Then 25 ± 2℃ over 2 hours before Testing	

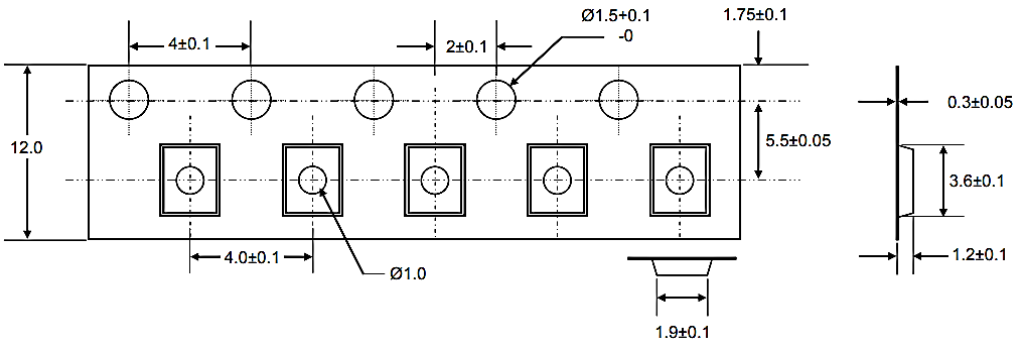
SUGGESTED REFLOW PROFILE (For Reference No. JEDEC J-STD-020D)

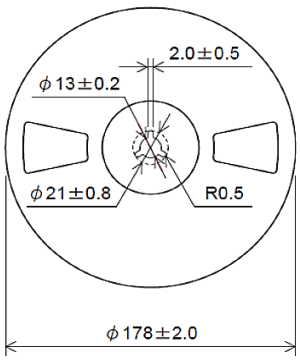


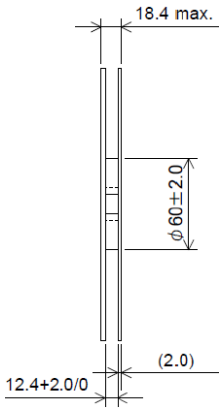
Profile Feature		Pb-Free Assembly
Average Ramp-up Rate (Ts Max to Tp)		3℃/second Max
Preheat	**Temperature Min (Ts Min.)**	150℃
	Temperature Max (Ts Max.)	200℃
	Time (ts Min. to ts Max.)	60 ~ 120 seconds
Time maintained above	**Temperature (TL)**	217℃
	Time (tL)	60 ~ 150 seconds
Peak/Classification Temperature (Tp)		260 +/-5℃
Time within 5℃ of actual Peak Temperature (tp)		20 ~ 40 seconds
Ramp-down rate		6 ℃ /Second Max.
Time 25 ℃ to Peak Temperature		8 minutes Max.
Suggest reflow times		3 Times Max.

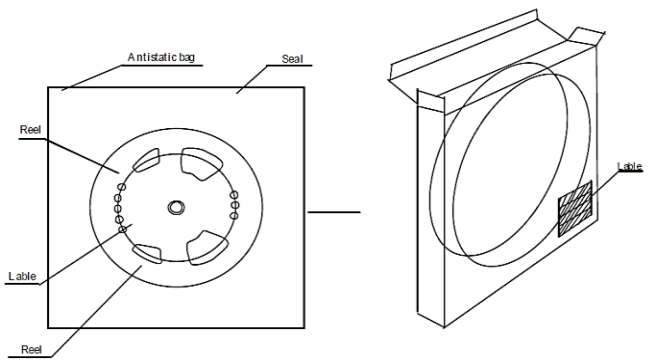
TAPE/REEL (Unit: mm)

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









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