



SPECIFICATION SHEET NO.	S0526- YV32K76800S003	
ORIGINAL MFG/PART NO.	TGS Crystals/CCMV 32K768A20-7-40-90TLF	
NEXTGEN PART CODE	YV32K76800S003	Indicate This Code For <a href="#">RFQ</a> /Order
DATE	May 26, 2025	
REVISION	A1	Updated With Most Recent Data
DESCRIPTION AND MAIN PARAMETRICS	MHz SMD Crystal 2 pads, Case 1610, YV series, Dimension L1.6*W1.0*H0.5mm 32.768KHz, Tolerance $\pm 20$ ppm, Load Capacitor 7pF Operating Temp. Range -40° C ~+85° C, ESR 90 Kohm Max, Reflow Profile Condition 260 ° C Max. Package in Tape/Reel, 5000pcs/Reel RoHS/RoHS III compliant, RoHS Annex III lead Exemption (exempt per RoHS EU 2015/863)	
CUSTOMER		
CUSTOMER PART NUMBER		
CROSS REF. PART NUMBER		
MEMO		

VENDOR APPROVE		
Issued/Checked/Approved		
Effective Date: May 26, 2025		

CUSTOMER APPROVE	
Date:	

## MAIN FEATURE

- MHz SMD Crystal L1.6\*W1.0\*H0.5mm 2 Pads
- Industry standard
- Reflow Profile Condition 260 ° C Max.
- Cross More Competitors Part
- REACH/RoHS/RoHS III Compliant



*Image shown is a representation only. Exact specifications should be obtained from the product dimension.*

## APPLICATION

- Bluetooth, Wireless Communication Set
- Communication Electronics



## ELECTRICAL CHARACTERISTICS

- See Page 5~6 For Different Part Code.
- All Products Parameters are Subject To NextGen Components' Final Confirmation.

## HOW TO ORDER

- Please Follow Up Part Code Guide And Indicate NextGen Part Code YV32K76800S003 For RFQ and Order.

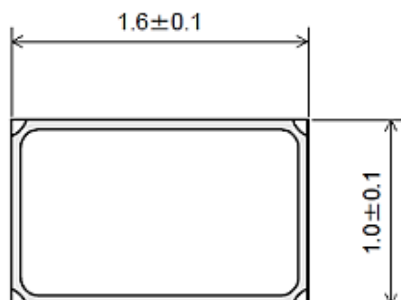
## PART CODE GUIDE

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

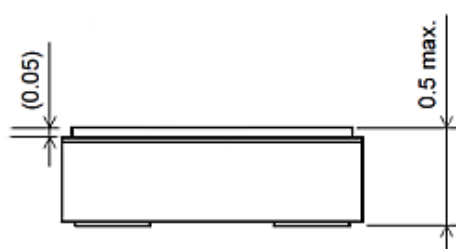
CODE	NAME	KEY SPECIFICATION OPTION
YV	Product Series Code	MHz SMD Crystal, 2 Pads Case Dimension L1.6*W1.0*H0.5mm
32K768	Frequency Range Code	32K768: 32.768KHz or Specify Frequency Range
00S	Internal Control Code	Letter or Digits (A~Z, a~z or 0~9)
003	Parameters Code	Letter or Digits (A~Z, a~z or 0~9)
XX	Special/Custom Parameters Code	Letter or Digits (A~Z, a~z or 0~9) for Special Parametric; Blank: N/A

DIMENSION - Unit: mm, Case 1610

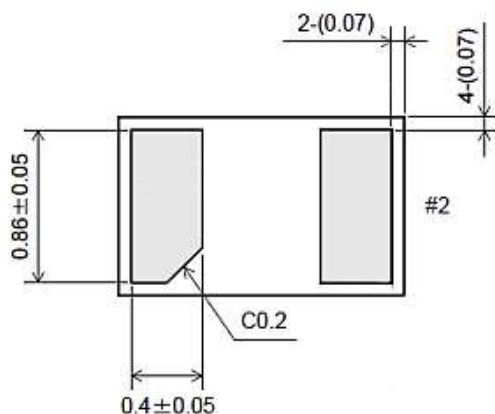
Top View



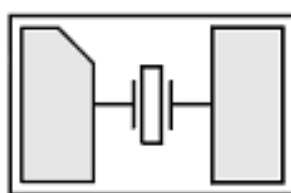
Side View



Bottom View



Internal Connection



< Top view >

**GENERAL SPECIFICATION –Ta = 25°C**

PARAMETER	SYMBOL	VALUE			UNIT	CONDITION
		MIN.	TYPE	MAX.		
Mode of Vibration Code		Fundamental				
Frequency Tolerance	ΔF/F0	-	±20	-	ppm	@ 25°C
Temperature Coefficient	K	-0.04	-	-0.02	ppm/° C²	
Load Capacitance	CL	7	-	12.5	pF	
Turnover Temperature	T <sub>T0</sub>	+20	25	+30	°C	
Operating Temp. Range	TOPR	-40	-	+85	°C	
Storage Temp. Range	TSTG	-55	-	+125	°C	
Quality Factor	Q	-	10000	-		
Shunt Capacitance	C0	-	1.35	7.0	pF	
Insulation Resistance	IR	500	-		mΩ	@100V ± 15Vdc
Drive Level	DL	-	0.1	0.5	μW	
Capacitance Ratio	R	-	450	-		
Aging per year	Fa	-3	-	+3	ppm	1st Year

ELECTRICAL PARAMETERS – FOR DIFFERENT PART CODE- Ta = 25°C

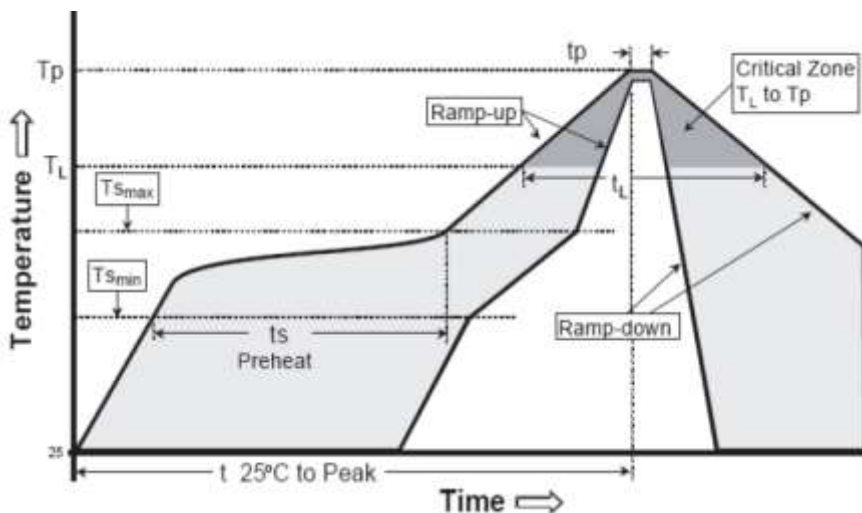
PART CODE	FREQUENCY RANGE	FREQUENCY TOLERANCE	LOAD CAPACITANCE	OPERATING TEMPE. RANGE	EQUIVALENT SERIES RESISTANCE
	KHz	ppm	pF	°C	KΩ Max.
YV32K76800S003	32.768	±20	7	-40 ~ +85	90
YV32K76800S005	32.768	±20	9	-40 ~ +85	90
YV32K76800S001	32.768	±20	12.5	-40 ~ +85	90

**RELIABILITY - MECHANICAL AND ENVIRONMENTAL ENDURANCE**

TEST ITEMS	TEST METHOD AND CONDITIONS	REQUIREMENTS
Vibration	a) Vibration Frequency: 10 To 55hz b) Vibration Amplitude: 1.5mm c) Cycle Time: 1~2min(10-55-10hz) d) Direction: X.Y.Z e) Duration: 2h/Each Direction	Frequency change: $\pm 10\text{ppm max.}$ Resistance change: $\pm 15\% \text{rrmax}$
Shock	100g dummy drop from 150cm height on to the concrete And 3 directions,10 times for each direction.	Frequency change: $\pm 10\text{ppm max.}$ Resistance change: $\pm 15\% \text{rrmax}$
Solderability	After applying RMA flux, dip in solder. Dipping Time : 5+/-0.5seconds. Soldering Temperature : 230+/-5 degC	The Dipped Part Of The Leads Should Have 90% Sn Coating
High Temp storage	Temperature: 85°C $\pm 5^\circ\text{C}$ for 500 H	Frequency change: $\pm 10\text{ppm max.}$ Resistance change: $\pm 15\% \text{rrmax}$
Low Temp storage	Temperature: -40°C $\pm 5^\circ\text{C}$ for 500 H	Frequency change: $\pm 10\text{ppm max.}$ Resistance change: $\pm 15\% \text{rrmax}$
Humidity Storage	Temperature: 65°C $\pm 5^\circ\text{C}$ , Relative Humidity:90-95%for 500 hours	Frequency change: $\pm 10\text{ppm max.}$ Resistance change: $\pm 15\% \text{rrmax}$
Temp cycle	T1:-40°C $\pm 5^\circ\text{C}$ , T2:100°C $\pm 5^\circ\text{C}$ , T1 to T2 to T1 ,Run 5 cycles, Maintain T1 and T2 30minutes each	Frequency change: $\pm 10\text{ppm max.}$ Resistance change: $\pm 15\% \text{rrmax}$
Salt Fog	Salt density:5% at the temperature of 35°C for 96 hours	After each test, no visible damage, nor the hermetic seal break down.

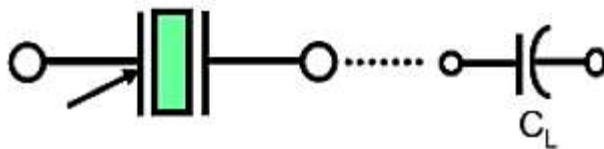
RELIABILITY - MECHANICAL AND ENVIRONMENTAL ENDURANCE

TEST ITEMS	TEST METHOD AND CONDITIONS	REQUIREMENTS
Solder Heat Resistance	Treat the Reflow 2 times by the following(Refer to 3.1)	Frequency change: $\pm 10\text{ppm max.}$ Resistance change: $\pm 15\%rrmax$
Leakage	Leak rate shall be measured by using Helium Leak Detector	Air $1 \times 10^{-2}$ Micro Pa · m <sup>3</sup> /s Max.
Aging	Temperature: $85^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 500 hours	Frequency change: $\pm 10\text{ppm max.}$ Resistance change: $\pm 15\%rrmax$
Shear Pull-off	10 N press the side for $10\text{ s} \pm 1\text{ s.}$	After each test, no visible damage, nor the hermetic seal break down.

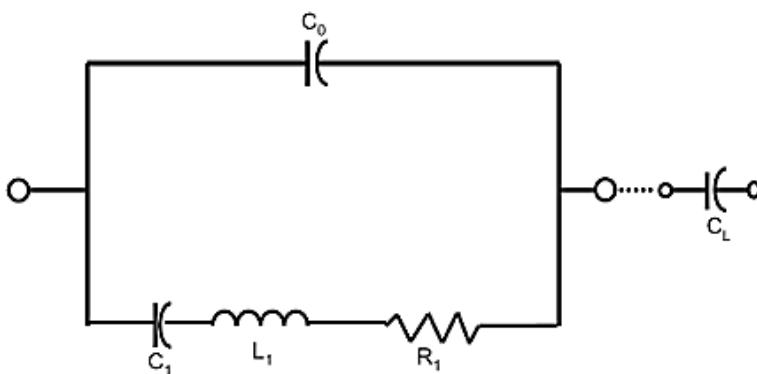
**SUGGESTED REFLOW PROFILE - FOR REFERENCE ONLY**


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 (T <sub>L</sub> )	217°C
	Time (t <sub>L</sub> )	60 ~ 150 seconds
Peak/Classification Temperature (T <sub>p</sub> )		260 °C
Time within 5°C of actual Peak Temperature (tp)		10 seconds Max
Ramp-down rate		6 °C /Second Max.
Time 25 °C to Peak Temperature		8 minutes Max.
Suggest reflow times		3 Times Max.

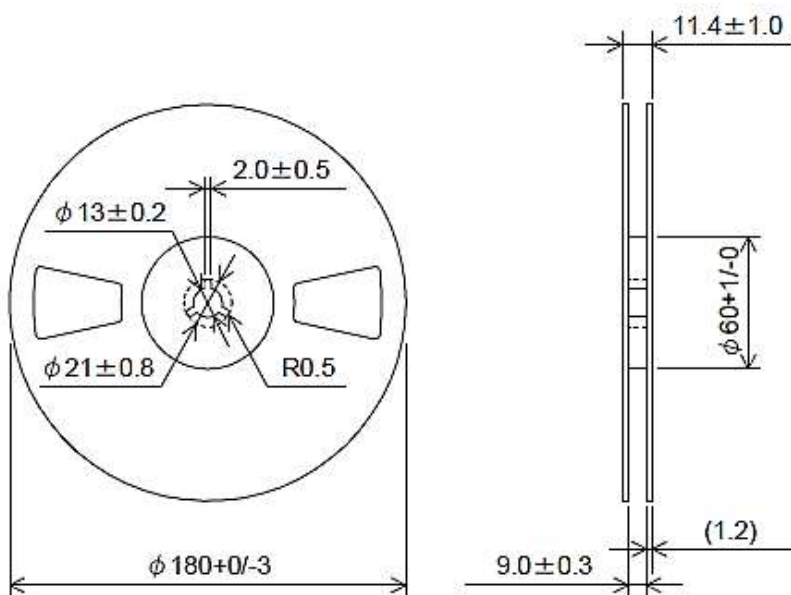
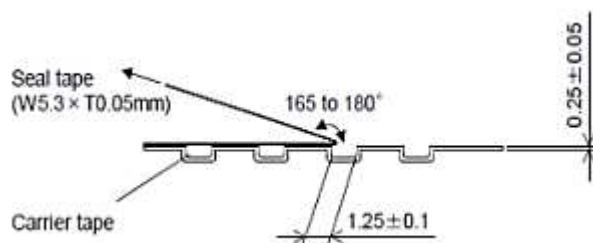
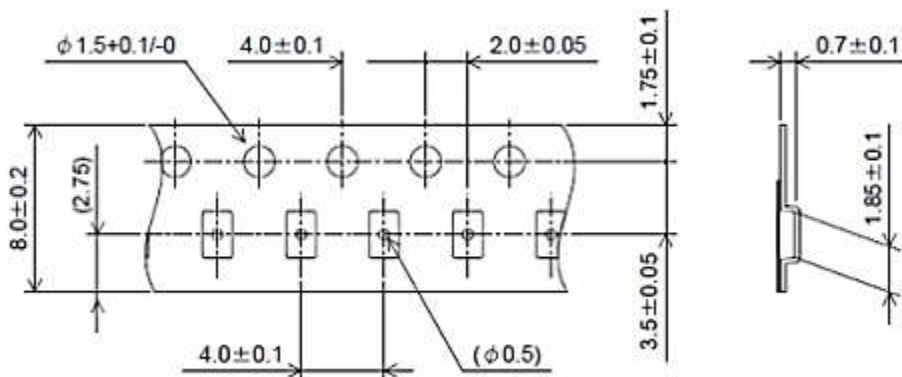
## Equivalent Circuits



## Symbol for crystal unit



TAPE AND REEL - Unit: mm, 5000pcs/Reel



## IMPORTANT NOTES AND DISCLAIMER

1. **ROHS COMPLIANCE:** The levels of RoHS restricted materials in this product are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances, or are used in an exempted application, in accordance with EU RoHS Directive (EU) 2015/863 EC (RoHS3). RoHS Test Report for this product can be obtained at Download Center.
2. **REACH COMPLIANCE:** REACH substances of high concern (SVHCs) information is available for this product. Since the European Chemical Agency (ECHA) has published notice of their intent to frequently revise the SVHC listing for the foreseeable future, REACH Test Report for this product can be obtained at Download Center.
3. All Product parametric performance is indicated in the Electrical Characteristics for the listed herein test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.
4. NextGen Component, Inc (*NextGen*) reserves the right to make changes to this document and its products and specifications at any time without notice. Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.
5. *NextGen* makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does *NextGen* assume any liability for application assistance or customer product design.
6. *NextGen* does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application. No license is granted by implication or otherwise under any intellectual property rights of NextGen.
7. *NextGen* products are not authorized for use as critical components in life support devices or systems without express written approval by *NextGen*.
8. *NextGen* requires that customers first obtain an RMA (Returned Merchandise Authorization) number prior to returning any products. Returns must be made within 30 days of the date of invoice, be in the original packaging, unused and like-new condition. At the time of quoting or purchasing, a product may say that it is Non-Cancelable/ Non-Returnable (NCNR). These products are not returnable and not refundable.