NextGen Components, Inc.

PART CODE: **YP32K76800S003**

SPECIFICATION SHEET

SPECIFICATION SHEET NO.	N0223- YP32K76800S003
DATE	Feb. 23, 2021
REVISION	A0
DESCRIPITION	KHz Plastic SMD Crystals, L8.0*W3.8*H2.4mm, 4 Pads, CCMC series 32.76800KHz, +/-20ppm, CL 12.5pF, Operating Temp. Range -40°C ~+85°C, ESR 50 Kohm Max, Reflow Profile Condition 260 °C Max. Tape/Reel, RoHS/RoHS III compliant, RoHS Annex III lead Exemption (exempt per RoHS EU 2015/863)
CUSTOMER	
CUSTOMER PART NUMBER	
CROSS REF. PART NUMBER	
ORIGINAL PART NUMBER	TGS CCMC 32K768A20-12.5-40-50TLH
PART CODE	YP32K76800S003

VENDOR APPROVE	
Issued/Checked/Approved	NextGen Components, Inc. Mandy Xu; NextGen Components, Inc. Ruby Zhang; NextGen Components, Inc. Jack Zhang
DATE: Feb. 23, 2021	

CUSTOMER APPROVE
DATE:

NextGen Components, Inc.

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KHZ PLASTIC SMD CRYSTALS 8038 TYPE 4 PADS

MAIN FEATURE

- SMD Package, 8038 Type, L8.0*W3.8*H2.4mm, 4 Pads
- Low cost and short lead time
- Industry standard
- Reflow Profile Condition 260 °C Max.
- Cross more competitors part
- RoHS/RoHS III compliant, RoHS Annex III lead Exemption (exempt per RoHS EU 2015/863)

APPLICATION

- Clock source for Portable
- Microcomputer & Automotive Equipment with Low power consumption

RFQ
Request For Quotation

PART CODE GUIDE

YP	32K76800	S	003
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1) YP: Part family Code for KHz Plastic SMD Crystals, L8.0*W3.8*H2.4mm, 4 Pads, CCMC series

2) 32K76800: Frequency range code for 32.76800KHz

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

4) 003: Specification code for original part No.: **TGS CCMC 32K768A20-12.5-40-50TLH**

MORE FREQUENCY RANGE AVAILABLE (KHz)

32.768	100.00	153.60							

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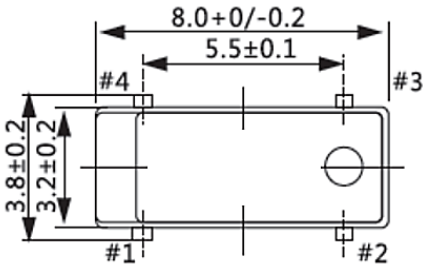
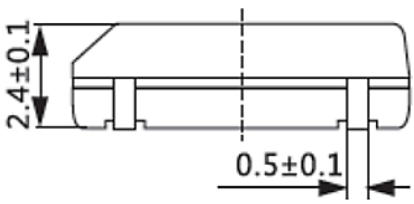
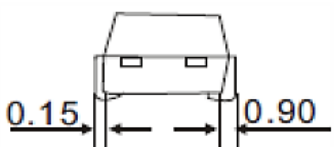
DIMENSION (Unit: mm, Tol. +/-0.15mm)

Image for reference

CCMC







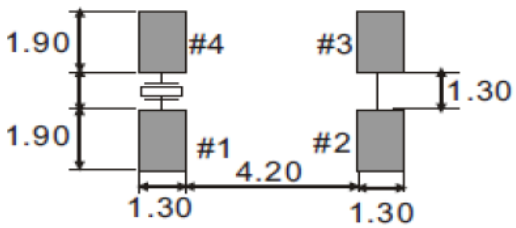
Marking

Line 1: Frequency Range

Note:

- Do not connect pad 2 and Pad 3 to external devices.
- Metal inside may be exposed on the top or bottom of plastic case
- It isn't Quality problem. This will not affect any quality, reliability and electrical specification when used

Recommend Pad Layout



Pin Function

#1 Crystal
#2 Ground
#3 Ground
#4 Crystal

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KHZ PLASTIC SMD CRYSTALS 8038 TYPE 4 PADS

ELECTRICAL PARAMETERS

Parameter		Part No. Symbol	Units	Value			Condition
				Min.	Typical	Max.	
Original Manufacturer		TGS	TGS Crystals				
Holder Type		CCMC	KHz Plastic SMD Crystals, L8.0*W3.8*H2.4mm, 4 Pads				
Frequency Range		32K768	KHz	32.76800			
Mode of Oscillation		A		AT Fundamental			
Frequency Tolerance		20	ppm	-20		+20	@25°C
Load Capacitance		-12.5	pF	12.5			
Frequency/Temp Coefficient			ppm/C²	0.028	0.034	0.04	
Operation Temperance		-40	°C	-40		+85	
Storage Temperance			°C	-40		+85	
Equivalent Series Resistance (ESR)		-50	KΩ			50	
Drive Level			µW			1.0	
Shunt Capacitance (C0)			pF	0.9	1.35	2.0	
Dynamic Capacitance			fF		1.8		
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	LH	RoHS III compliant, RoHS Annex III lead Exemption (exempt per RoHS EU 2015/863)				
	Add Value		N/A				
	Internal Control Code *		N/A				

Note: 1) Original Part Number: **TGS CCMC 32K768A20-12.5-40-50TLH**
2) * Internal Control Code- 2 letter or digits; Blank: N/A

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RELIABILITY

Test Items	Test Method And Conditions	Reference Documents
High Temperature High Humidity Storage	Temperature: 85℃±3℃ Relative Humidity:85%RH Time: 96 Hours	JIS C5023
High Temperature Storage	Temperature: 125℃±3℃ Time: 96 Hours.	MIL-STD-883E Method 1005.8
Low Temperature Storage	Temperature: -40℃±3℃ Time: 96 Hours.	MIL-STD-883E Method 1013
Thermal Shock	Temperature 1: -55℃±5℃ Temperature 2: 85℃±5 ℃ Temperature change between T1 and T2 5 min 10cycles maintain T1 and T2 for 30 minutes each cycle	MIL-STD-202F Method 107 Condition A
Resistance to Solder Heat	Solder Temperature: 260℃±5℃ Time: 10±1 Seconds	MIL-STD-202F Method 210E
Solderability	The solder pot temperature is 245±5℃ , dwell time 5±0.5sec	J-STD-002B
Drop Test	3 Times Free Fall from 50cm height table to 3cm thickness hard wood board	J-STD-002B
Mechanical Shock	Half sine wave,1000 G 3 Times for all 3 directions(X,Y Z)	MIL STD 202F Method 213B
Vibration	Frequency Range: 10Hz ~ 55Hz Amplitude: 0.75mm 2 Hours in each direction, total 6 Hours	MIL-STD-883E Method 2007.3
Leakage Test	Take measurements with a helium Leakage detector Leakage Rate≤1×10^{-3}Pa cm^3/s	MIL-STD-883E

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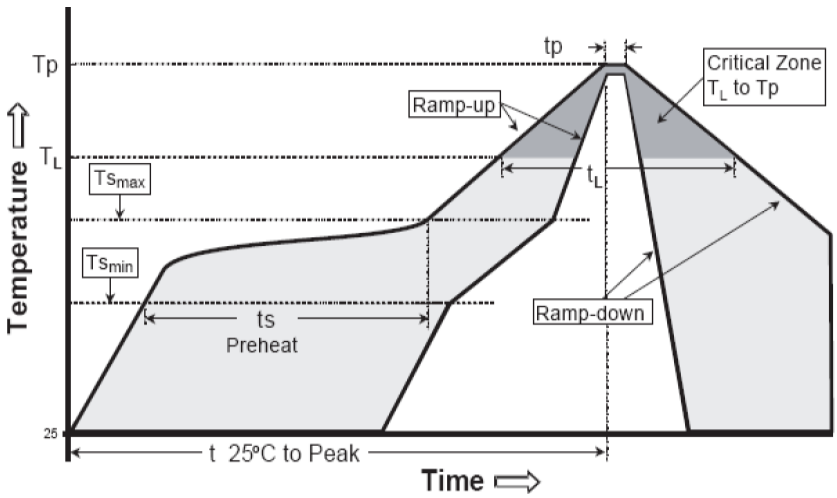
SUGGESTED REFLOW PROFILE (For Reference Only)

Total time: 200 Sec. Max. Solder melting point: 220℃



Profile Feature		Pb-Free Assembly
Average Ramp-up Rate (Ts Max to Tp)		3℃/second Max
Preheat	**Temperature Min (Ts Min.)**	125℃
	Temperature Max (Ts Max.)	200℃
	Time (ts Min. to ts Max.)	60 ~ 180 seconds
Time maintained above	**Temperature (TL)**	217℃
	Time (tL)	60 ~ 150 seconds
Peak/Classification Temperature (Tp)		260 ℃
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.

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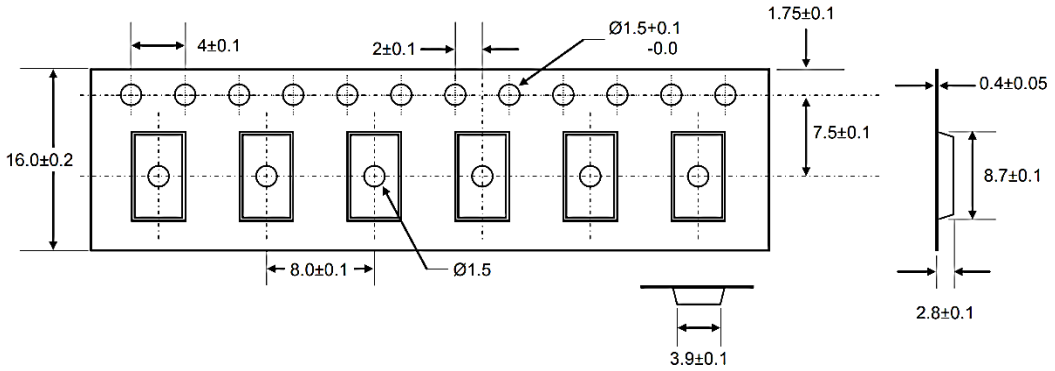
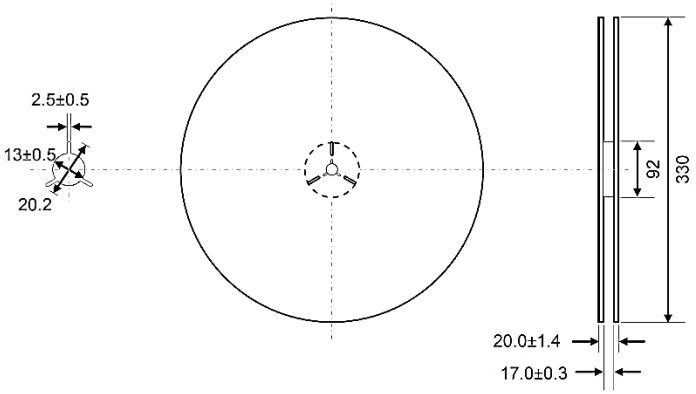
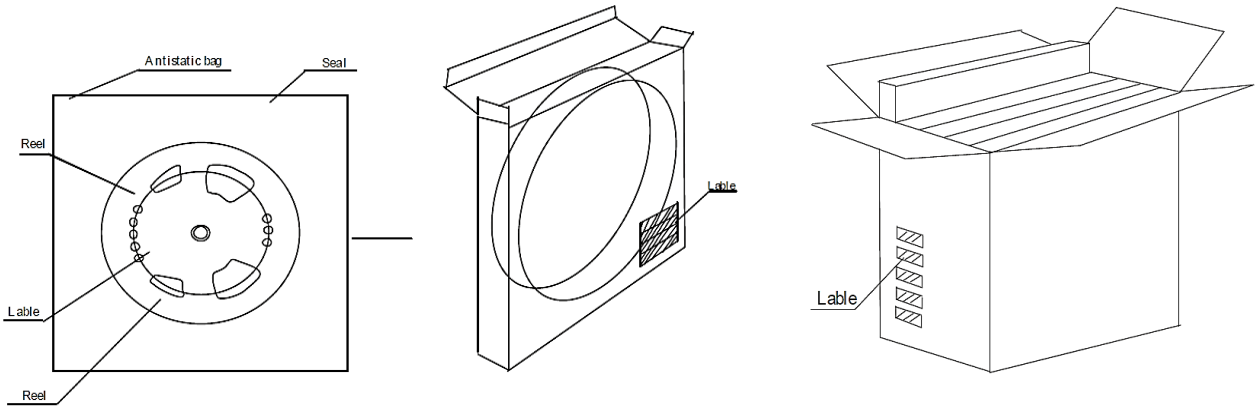
TAPE/REEL (Unit: mm)

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







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