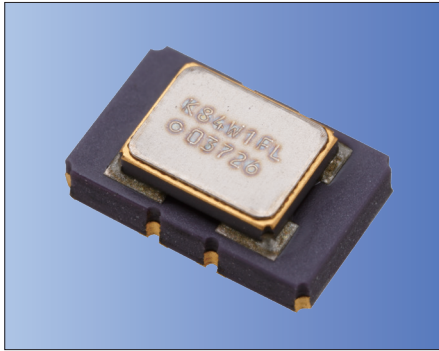




5.0x3.2mm



RoHS Compliant

**Features**

- High stability and high reliability
- 2.3 to 3.63V drive available
- Clipped sine wave or CMOS level output
- Low phase noise

**Applications**

- 5G, Smallcell, Stratum3
- SONET/ SDH/ Ethernet

**How to Order**

KT5032F 20000   A   33 T xx  
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧

- ① Series
- ② Output Frequency
- ③ Frequency Tolerance
- ④ Lower Operating Temp.
- ⑤ Upper Operating Temp.

	③	④	⑤
KAW	$\pm 0.28 \times 10^{-6}$	-40°C	+85°C
KAY	$\pm 0.28 \times 10^{-6}$	-40°C	+105°C
AAV	$\pm 0.10 \times 10^{-6}$	-40°C	+105°C

⑥ Supply Voltage	⑦ Voltage Control Function
33 3.3V	T TCXO
	Spec. Code* VCTCXO

\*Please contact us for Spec. Code.

⑧ Individual Specification

Packaging (Tape & Reel 1000 pcs./ reel)

**Specifications**

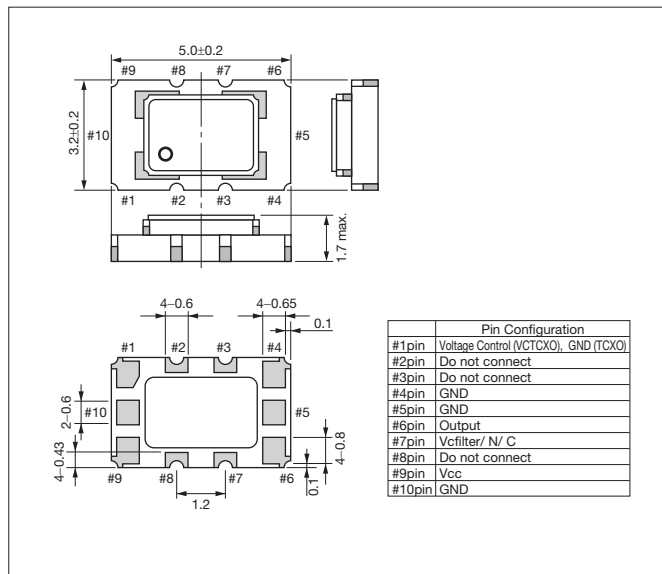
Item	Symbol	Conditions	Min.	Max.	Units	
Output Frequency Range	fo	Standard Frequency: 10, 19.2, 20, 24.576, 26, 30.72, 38.88, 40	10	40	MHz	
Frequency Tolerance	f <sub>tol</sub>	vs Temperature (-10 to +105°C) $[\pm(f_{max}-f_{min})/ 2fo]$	-0.1	+0.1	$\times 10^{-6}$	
		vs Voltage	-0.1	+0.1		
Supply Voltage	V <sub>CC</sub>		+2.3	+3.63	V	
Current Consumption	I <sub>CC</sub>	CMOS Output	—	6	mA	
Frequency Aging	f <sub>age</sub>	20years aging @40°C Including temp characteristics, initial tolerance, rated power supply voltage change and load change.	-4.6	+4.6	$\times 10^{-6}$	
Voltage Control Range	f <sub>cont</sub>	Positive *100k ohm min	$\pm 5$	$\pm 20$	$\times 10^{-6}$	
Output Level	V <sub>pp</sub>	Clipped Sine*, Load: 10k ohm // 10pF	0.8	—	Vp-p	
Low Level Output Voltage	V <sub>OL</sub>	CMOS, Load: 15pF I <sub>OL</sub> =4mA	—	10% V <sub>CC</sub>	V	
High Level Output Voltage	V <sub>OH</sub>	CMOS, Load: 15pF I <sub>OH</sub> =-4mA	90% V <sub>CC</sub>	—	V	
Rise / Fall Time (10%V <sub>CC</sub> to 90%V <sub>CC</sub> )	Tr/ Tf	CMOS, Load: 15pF	—	8	ns	
Symmetry	SYM	50% V <sub>CC</sub>	45	55	%	
Phase Noise	—	@20MHz	@10Hz offset	—	-90	dBc/ Hz
			@100Hz offset	—	-120	
			@1kHz offset	—	-140	
			@10kHz offset	—	-150	
			@100kHz offset	—	-150	

\*: A DC-cut capacitor is not embedded in this crystal oscillator. In case of clipped sine output, connect a DC-cut capacitor ( $\geq 1nF$ ) to the line-out terminal of the oscillator.

\* Please contact us for other specifications.

**Dimensions**

(Unit: mm)



**Recommended Land Pattern**

(Unit: mm)

