

Travelling Merchant: \_\_\_\_\_

# DATASHEET

Standard:     **T21-Q519-19.20MHz**    

P/N: \_\_\_\_\_

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2022.01.20			

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## 1. Electrical Parameters

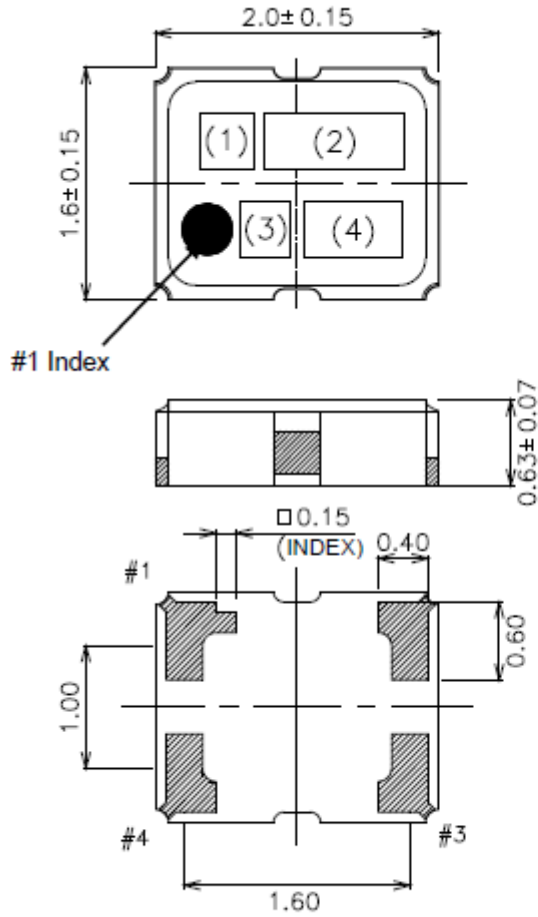
MODEL: T21-Q519-19.20MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	19.20			MHz	
	Output Waveform	Clipped Sine Wave				
	Vp-p	0.8			V	
	Start up time			2	ms	More than 90% of final output voltage
	Load	10KΩ//10pF				
Frequency Stabilities	Frequency Tolerance	-1.5		+1.5	$\times 10^{-6}$	@25°C, 2H, after 2times reflow soldering, based on nominal frequency.
	vs. Temperature Range	-0.5		+0.5	$\times 10^{-6}$	T <sub>A</sub> varied from -30°C to 85°C, measurement referenced to frequency observed with f <sub>ref</sub> =(f <sub>max</sub> +f <sub>min</sub> )/2, V <sub>cc</sub> =3.3V, O <sub>load</sub> =10KΩ//10pF, temperature variable speed less than 2°C per minute.
		-1		+1	$\times 10^{-6}$	T <sub>A</sub> varied from -40°C to -30°C, measurement referenced to frequency observed with f <sub>ref</sub> =(f <sub>max</sub> +f <sub>min</sub> )/2, V <sub>cc</sub> =3.3V, O <sub>load</sub> =10KΩ//10pF, temperature variable speed less than 2°C per minute.
	Frequency Tolerance vs. Supply Voltage	-0.2		+0.2	$\times 10^{-6}$	5% Voltage change measurement referenced to frequency observed T <sub>A</sub> =25°C, and O <sub>Load</sub> =10KΩ//10pF.
	Frequency Tolerance vs. Load	-0.2		+0.2	$\times 10^{-6}$	10% load change measurement referenced to frequency observed with T <sub>A</sub> =25°C, V <sub>cc</sub> =3.3V, and O <sub>Load</sub> =10KΩ//10pF.
Aging Tolerance 1 Year	-1		+1	$\times 10^{-6}$	T <sub>A</sub> =25°C, V <sub>cc</sub> =3.3V, and after 1h of operation.	
Power Supply	Operating Current			1.5	mA	@25°C, V <sub>cc</sub> =3.3V.
	Supply Voltage	1.71		3.465	V	Support 1.8V, 2.8V, 3.3V



Phase Noise	Phase Noise @25°C			-61	dBc/Hz	1Hz
				-90		10Hz
				-117		100Hz
				-138		1KHz
				-145		10KHz
				-150		100 KHz
				-151		1 MHz
Environmental Conditions	Operable Temperature	-40		+85	°C	
	Storage Temperature	-55		+105	°C	
	ESD Level	Human Body Model,class2: 2000V to 4000V; ANSI/ESDA/JEDEC JS-001-2010.				
		Machine Model, class B: 200V to 400V; JEDEC JESD22-A115C.				
	Moisture Sensitivity Level	Level 2.				
	Vibration	Test Condition: 0.75mm ;acceleration:10g;10Hz~2000Hz, one cycle per 30 min, test 2 hour. (3 times for each 3 directions X ,Y , Z) .IEC 68-2-06 Test Fc.				
Shock	100g; 6ms; half sine wave (3 times for each 3 directions X ,Y , Z ),IEC 68-2-27 Test Ea/Severity 50A.					
Full Package Storage	Relative humidity (%)	20% ~70%				
	Temperature (°C)	-10~35°C				



## 2. Mechanical Structure(mm)



### Pin Connections

Pin No.	Connection
#1	GND
#2	GND
#3	Output
#4	V <sub>CC</sub>

### Marking

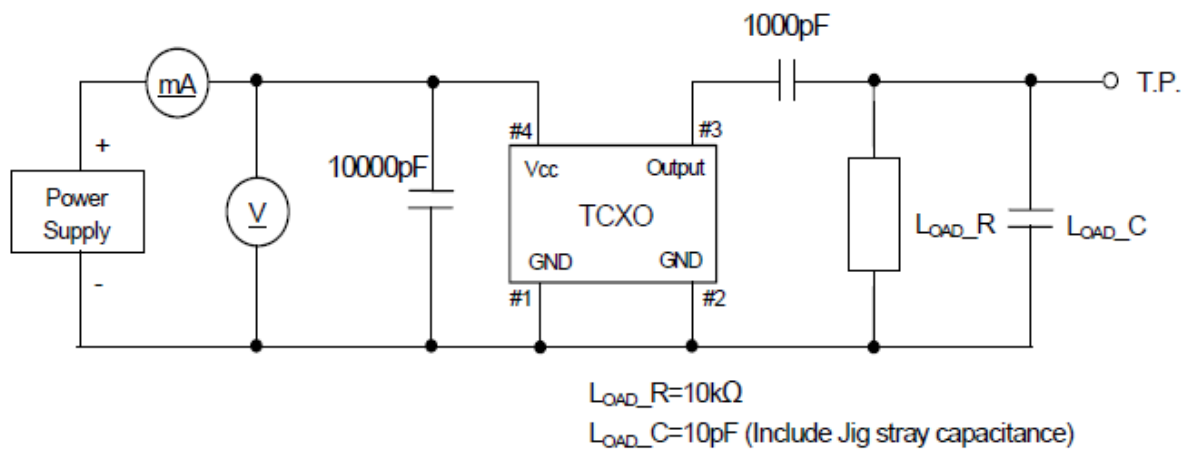
(1) Model code	BD
(2) Frequency	19.2 (MHz, 3digits)
(3) Logo	D
(4) Date code	Year (1digit) +Week (2digits) e.g.2014/1/1 → 401

unit: mm

Dimensional Tolerance: ±0.15

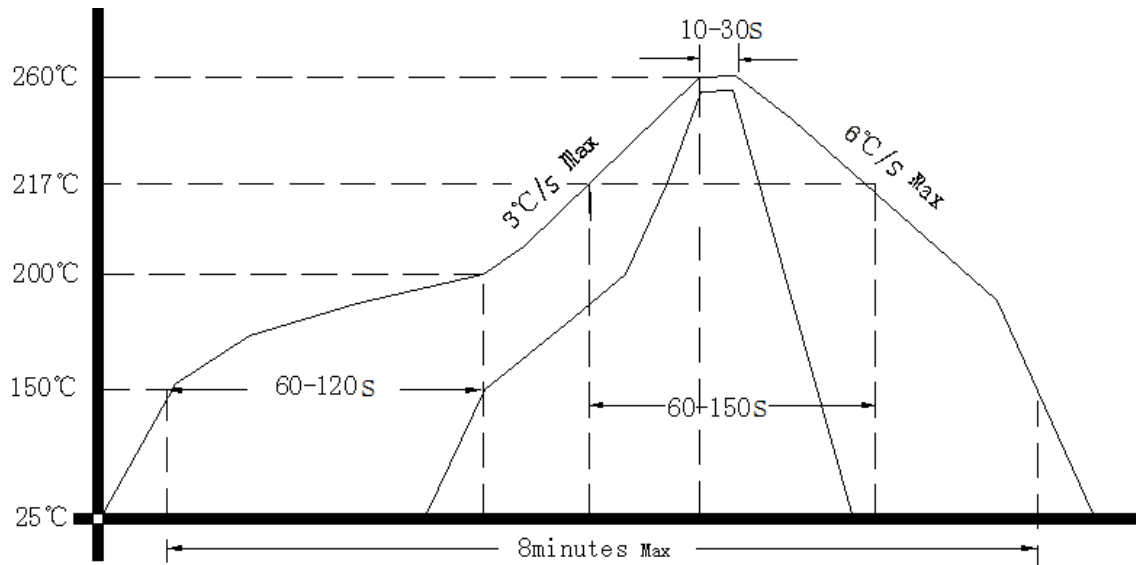
(Unless otherwise noted)

## 3. Test Circuit





#### 4. Reflow Soldering Curve (RoHS)



#### 5. Package: Tape & Reel (mm)

