

Travelling Merchant: _____

DATASHEET

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

P/N: _____

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2022.05.11			

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	<i>Amway</i>	2021.11.11
1.1	The "Supply Voltage" changed	<i>Amway</i>	2021.11.18
1.2	The "vs. Temperature Range" "Mechanical Structure" changed	<i>Amway</i>	2022.01.19
1.3	The "Phase Noise" changed	<i>Amway</i>	2022.01.20
1.4	The "Mechanical Structure" changed	<i>Amway</i>	2022.05.11



1. Electrical Parameters

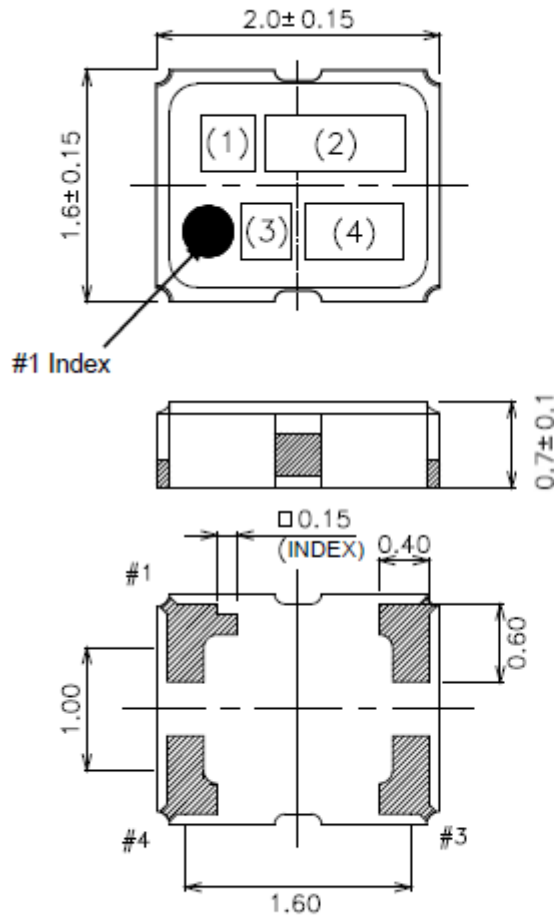
MODEL: T21-Q519-19.20MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	19.20			MHz	
	Output Waveform	Clipped Sine Wave				
	Vp-p	0.8			V	
	Start up time			2	ms	More than 90% of final output voltage
	Load	10KΩ//10pF				
Frequency Stabilities	Frequency Tolerance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

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

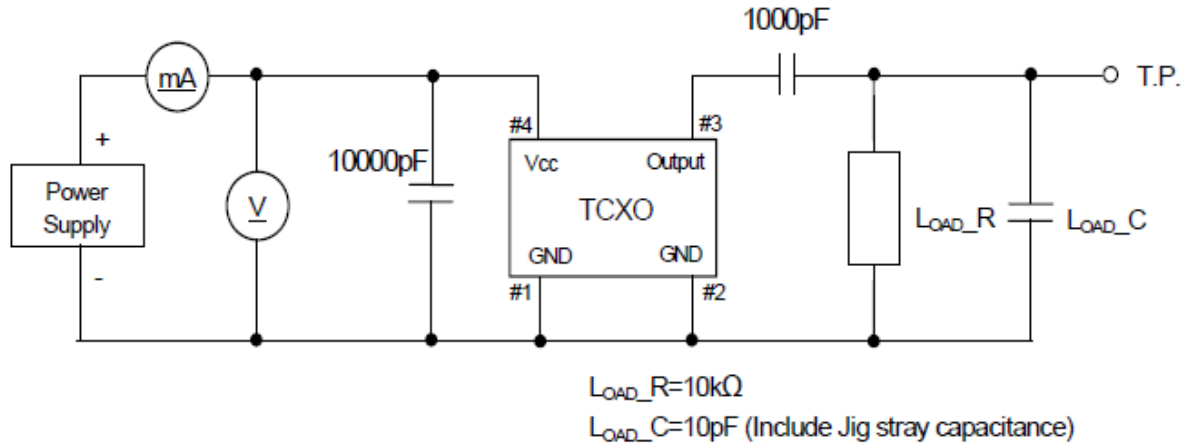
unit: mm

Dimensional Tolerance: ± 0.15

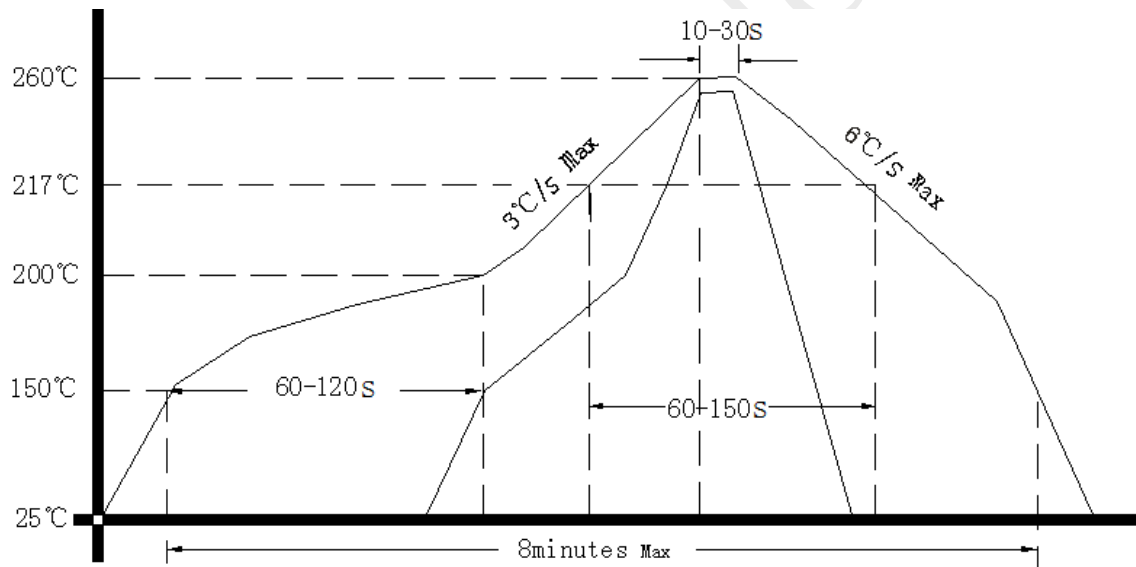
(Unless otherwise noted)



3. Test Circuit



4. Reflow Soldering Curve (RoHS)



5. Package: Tape & Reel (mm)

