

Travelling Merchant: _____

DATASHEET

Standard: **T21-S513-20.00MHz**

P/N: _____

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2021.09.01			

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	<i>Amway</i>	2021.09.01



1、Electrical Parameters

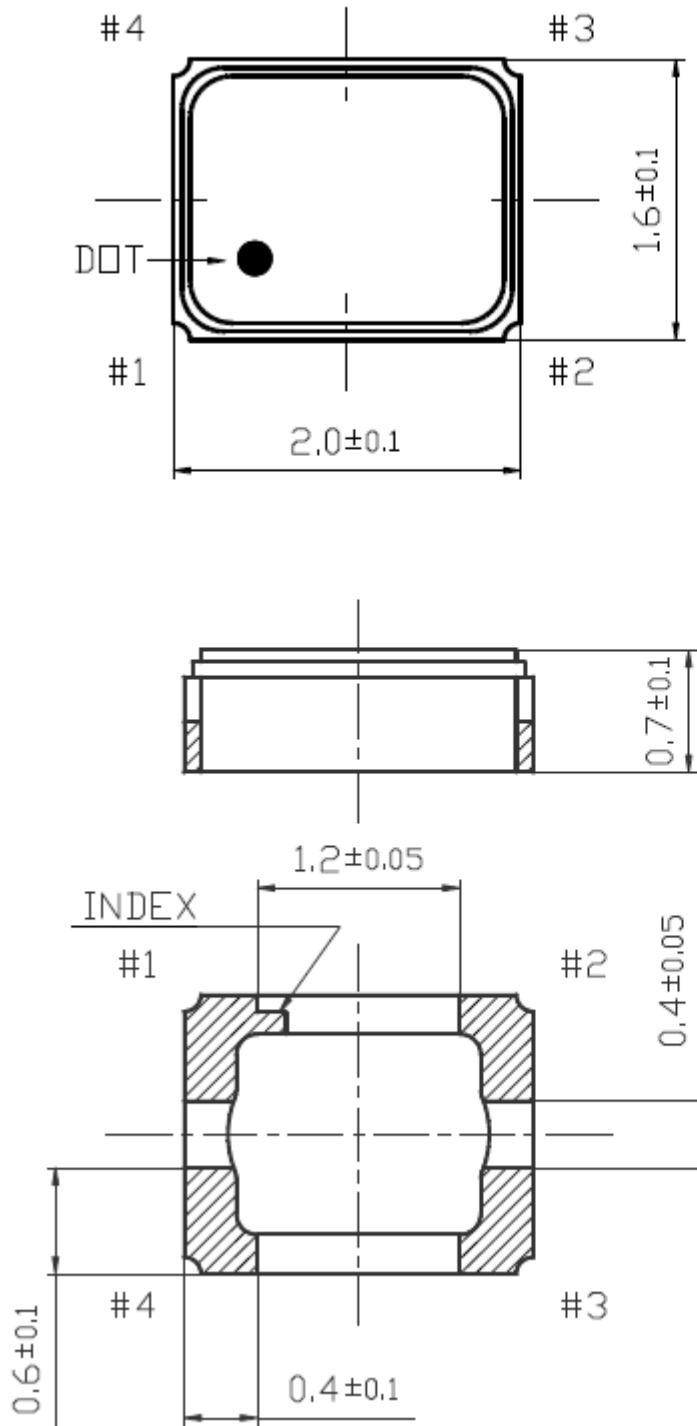
MODEL: T21-S513-20.00MHz							
Item	Description	Parameters			Unit	Test Condition	
		Min.	Typ.	Max.			
Output	Frequency	20.00			MHz		
	Output Waveform	Clipped Sine Wave					
	Vp-p	0.8		1.5	V	Peak to peak voltage	
	Duty Cycle	40		60	%	GND level (DC-cut)	
	Harmonics			-8	dBc		
	Start up				2	ms	@90% of Final Vout level
					2	ms	Within ± 1.0 ppm of final frequency
Load	10K Ω //10pF						
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.5		+0.5	$\times 10^{-6}$	T _A varied from -40°C to 85°C, measurement referenced to frequency observed with f _{ref} =(f _{max} +f _{min})/2, V _{cc} =3.3V, V _c =1.65V, O _{load} =10pF, temperature variable speed less than 2°C per minute.	
	Initial Frequency Tolerance	-1.5		+1.5	$\times 10^{-6}$	Reflow cycles:2times, Measurement of frequency deviation is made 24h after reflow soldering . TA =25°C, Include initial frequency tolerance and frequency deviation after reflow cycles.	
	Frequency Tolerance vs. Supply Voltage	-0.2		+0.2	$\times 10^{-6}$	measurement referenced to frequency observed T _A =25°C, V _{cc} varied from 3.135V to 3.465V, V _c =1.5V and O _{Load} =10K Ω //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, V _c =1.5V and O _{Load} =10K Ω //10pF .	
	Aging Tolerance Per Year	-1		+1	$\times 10^{-6}$	T _A =Room ambient.	
Power Supply	Operating Current			1.5	mA	@25°C, V _{cc} =3.3V, V _c =1.5V, O _{Load} =10K Ω //10pF.	
	Supply Voltage	3.13	3.3	3.47	V		
Voltage Control	Frequency tuning range	-15		-5	$\times 10^{-6}$	V _c = 0.5V. measurement referenced to V _c =1.5V.	
		-1.5		+1.5	$\times 10^{-6}$	V _c =1.5V. measurement referenced to Exactly 20.00MHz.	
		+5		+15	$\times 10^{-6}$	V _c =2.5V. measurement referenced to V _c =1.5V.	
	Slope	Positive					
	Input Impedance	100			K Ω		



Phase Noise	Phase Noise			-78	dBc/Hz	10Hz
				-108		100Hz
				-130		1KHz
				-145		10KHz
				-148		100KHz
				-148		1MHz
Environmental Conditions	Operable Temperature	-40		+85	°C	
	Storage Temperature	-40		+85	°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.					



2、 Mechanical Structure(mm)



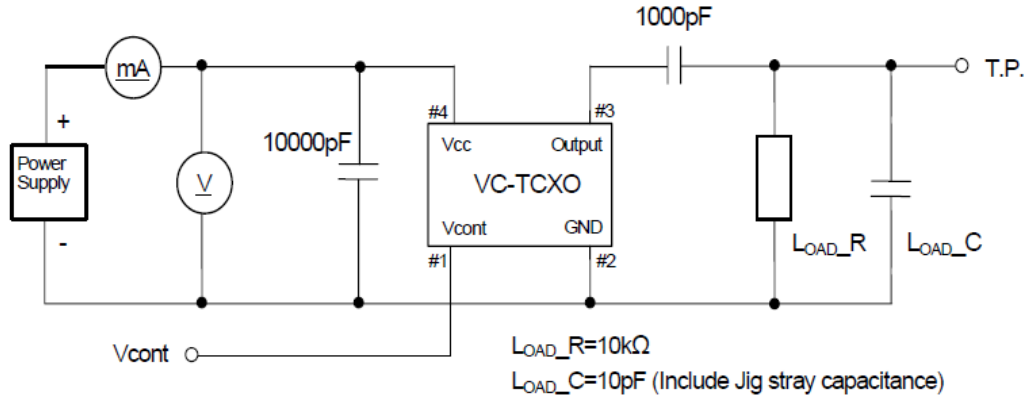
Terminal land connections

#1	VCONT
#2	GND
#3	OUTPUT
#4	VCC

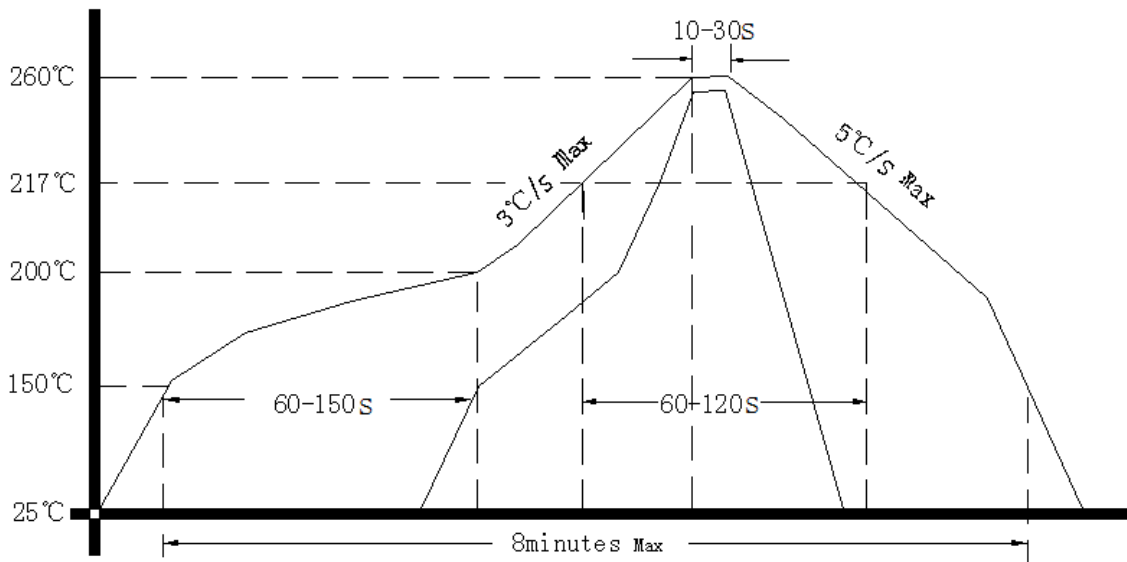
Notel: Tolerance ± 0.2 mm



3、 Test Circuit



4、 Reflow Soldering Curve (RoHS)



5、 Package: Tape & Reel (mm)

