

Customer Code : \_\_\_\_\_

# DATASHEET

DAPU P/N :           **T32-B513-20.00MHz-A**          

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

DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
<i>Amway.wei</i>	<i>Carry.Wang</i>	<i>James.Liu</i>	
Date: 2018.07.17			

## Guangdong Dapu Telecom Technology Co.,Ltd

Bldg13-16,.N.Ind.Zone,SSL Industry Park, Dongguan City, Guangdong Province, China

TEL: 0086-0769-88010888 FAX: 0086-0769-81800098





## 1. Electrical Parameters

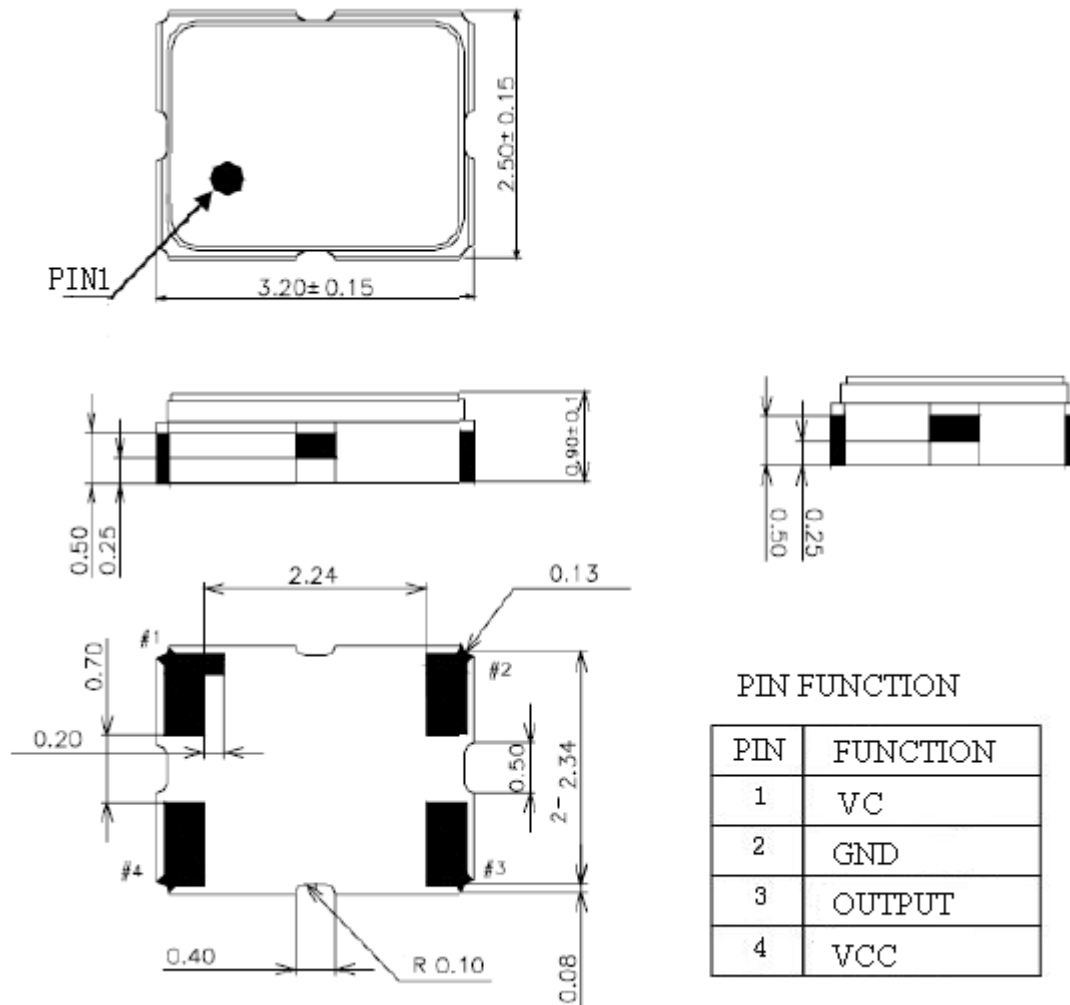
MODEL: T32-B513-20.00MHz-A						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	20.00			MHz	
	Output Waveform	Clipped Sine Wave				
	Vp-p	0.8			V	
	Load	10KΩ//10pF				
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.28		+0.28	$\times 10^{-6}$	$T_A$ varied from -40 to 85°C, measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2$ , $V_{cc}=3.3V$ , $V_c=1.5V$ $O_{load}=10K\Omega//10pF$ , temperature variable speed less than 2°C per minute.
	Initial Frequency Tolerance	-1		+1	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^\circ C$ , $V_{cc}=3.3V$ , $V_c=1.5V$ within 30 days after ex-works.
	Frequency Tolerance vs. Supply Voltage	-0.1		+0.1	$\times 10^{-6}$	measurement referenced to frequency observed $T_A=25^\circ C$ , $V_{cc}$ varied from 3.13V to 3.47V, $V_c=1.5V$ and $O_{Load}=10K\Omega//10pF$ .
	Frequency Tolerance vs. Load	-0.1		+0.1	$\times 10^{-6}$	5% load change measurement referenced to frequency observed with $T_A=25^\circ C$ , $V_{cc}=3.3V$ , $V_c=1.5V$ $O_{Load}=10K\Omega//10pF$ .
	Aging Tolerance Per Day	-0.02		+0.02	$\times 10^{-6}$	$T_A=25^\circ C$ , $V_{cc}=3.3V$ , $V_c=1.5V$ and after 1h of operation.
	Aging Tolerance 1 Year	-1		+1	$\times 10^{-6}$	
Power Supply	Current Consumption			3	mA	@25°C, $V_{cc}=3.3V$ , $V_c=1.5V$ $O_{load}=10K\Omega//10pF$ .
	Supply Voltage	3.13	3.3	3.47	V	
Phase Noise	Phase Noise		-90	-85	dBc/Hz	10Hz
			-120	-115		100Hz
			-140	-135		1KHz
			-145	-140		10KHz
			-148	-143		100KHz



Voltage Control Characteristics	Frequency Tuning Range	-15		-10	$\times 10^{-6}$	$V_c=0.5V$ . measurement referenced to $V_c=1.5V$
		-1		+1	$\times 10^{-6}$	$V_c=1.5V$ . measurement referenced to exactly 20.00MHz
		+10		+15	$\times 10^{-6}$	$V_c=2.5$ . measurement referenced to $V_c=1.5V$
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100				K $\Omega$
Environmental Conditions	Operable Temperature	-40		+85	$^{\circ}C$	
	Storage Temperature	-55		+105	$^{\circ}C$	
	ESD Level	Human Body Model, class2: 2000V to 4000V; ANSI/ESDA/JEDEC JS-001-2010.				
		Machine Model, class B: 200V to 400V; ANSI/ESDA/JEDEC JS-001-2010.				
	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 ( $^{\circ}C$ )	-10~35 $^{\circ}C$				



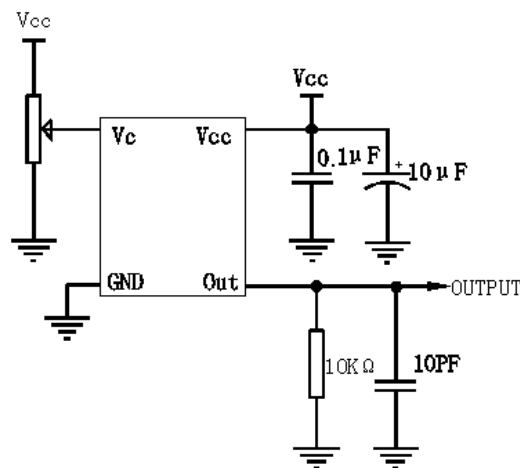
## 2. Mechanical Structure(mm)



**Note1:** Tolerance  $\pm 0.1\text{mm}$  without mark

**Note2:** Referential weight 0.02g

## 3. Test circuit





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



**Note:** If soldering with a hot air gun, ensure the temperature < 320°C , soldering time < 15 seconds.

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

