

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

# DATASHEET

DAPU P/N:           **T21-F569-32.00MHz-B**          

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DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2022.03.31			

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## 1. Electrical Parameters

MODEL: T21-F569-32.00MHz-B						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	32.00			MHz	
	Output Waveform	Clipped Sine Wave				
	Vp-p	0.8			V	
	Duty Cycle	40		60	%	
	Start up Time			2	ms	To 90% of Vp-p
	Load	10kΩ//10pF				
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-2.5		+2.5	$\times 10^{-6}$	$T_A$ varied from $-30^{\circ}\text{C}$ to $85^{\circ}\text{C}$ , measurement referenced to frequency observed with $f_{\text{ref}}=(f_{\text{max}}+f_{\text{min}})/2$ , $V_{\text{cc}}=3.0\text{V}$ , $O_{\text{load}}=10\text{K}\Omega//10\text{pF}$ , temperature variable speed less than $2^{\circ}\text{C}$ per minute.
	Nominal Frequency Tolerance	-2		+2	$\times 10^{-6}$	At $25^{\circ}\text{C}$ based on nominal frequency, After 2 times reflow
	Frequency Tolerance vs. Supply Voltage	-0.1		+0.1	$\times 10^{-6}$	measurement referenced to frequency observed $T_A=25^{\circ}\text{C}$ , $V_{\text{cc}}$ varied from 2.85V to 3.15V, and $O_{\text{Load}}=10\text{K}\Omega//10\text{pF}$ .
	Frequency Tolerance vs. Load	-0.1		+0.1	$\times 10^{-6}$	10% load change measurement referenced to frequency observed with $T_A=25^{\circ}\text{C}$ , $V_{\text{cc}}=3.0\text{V}$ , and $O_{\text{Load}}=10\text{K}\Omega//10\text{pF}$ .
	Aging Tolerance 1 Year	-1		+1	$\times 10^{-6}$	$T_A=25^{\circ}\text{C}$ , $V_{\text{cc}}=3.0\text{V}$ , and after 1h of operation.
Power Supply	Operating Current			2	mA	@ $25^{\circ}\text{C}$ , $V_{\text{cc}}=3.0\text{V}$ , $O_{\text{Load}}=10\text{K}\Omega//10\text{pF}$ .
	Supply Voltage	2.85	3.0	3.15	V	
Phase Noise	Phase Noise @ $25^{\circ}\text{C}$		-96		dBc/Hz	10Hz
			-121			100Hz
			-140			1KHz
			-150			10KHz
			-155			100KHz

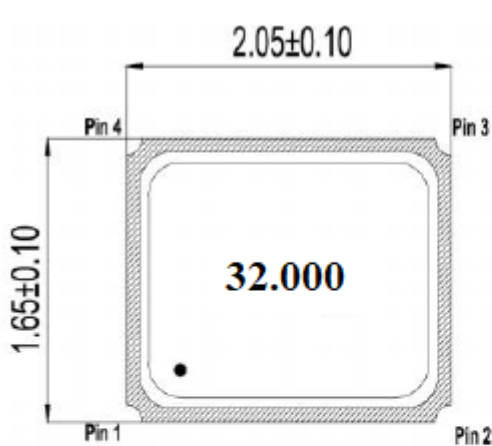


Environmental Conditions	Operable Temperature	-30		+85	°C	
	Storage Temperature	-55		+105	°C	
	ESD Level	Human Body Model,class2: 2000V to 4000V; ANSI/ESDA/JEDEC JS-001-2010.				
		Machine Model, class B: 200V to 400V; JEDEC JESD22-A115C.				
	Moisture Sensitivity Level	Level 2.				
	Vibration	Test Condition: 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				

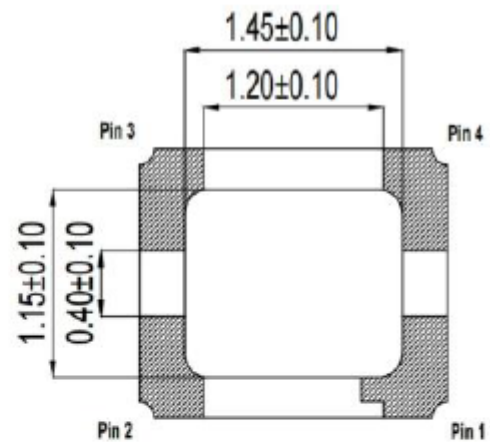
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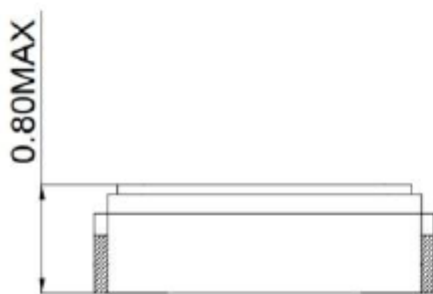
## 2. Mechanical Structure(mm)



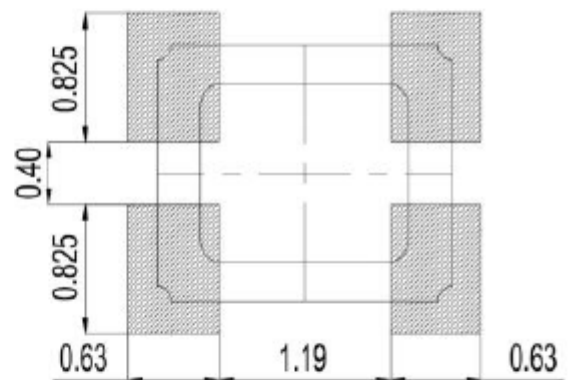
Top View



Bottom View



Side view



Recommended Land Pattern

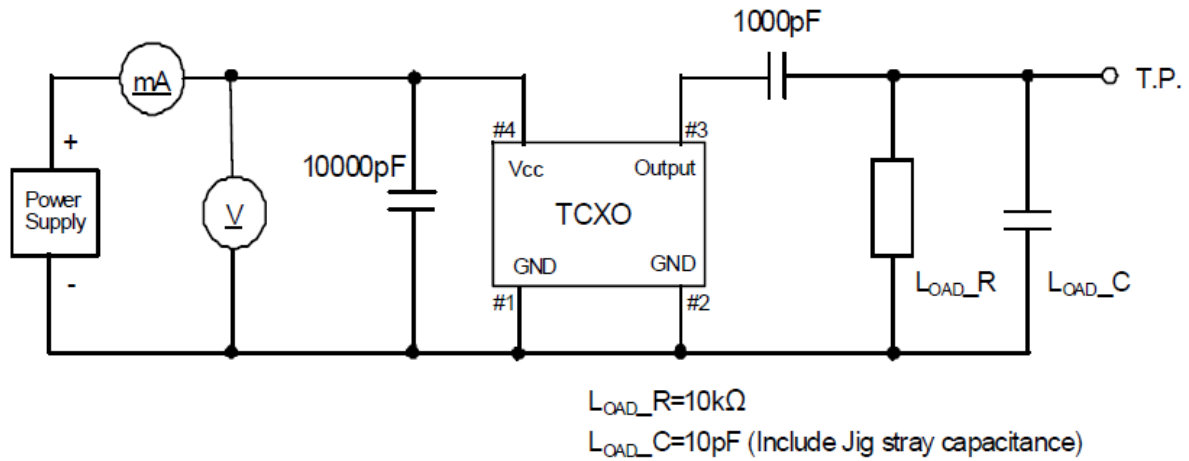
### Pin Connection

Name	Connection
Pin 1	GND
Pin 2	GND
Pin 3	Fout
Pin 4	Vcc

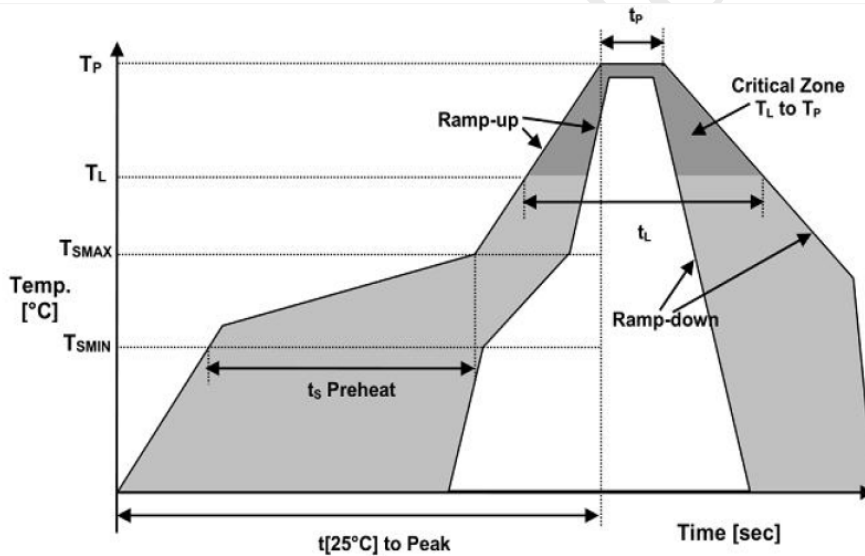
**Note1:** Tolerance  $\pm 0.15\text{mm}$  without mark



### 3. Test Circuit



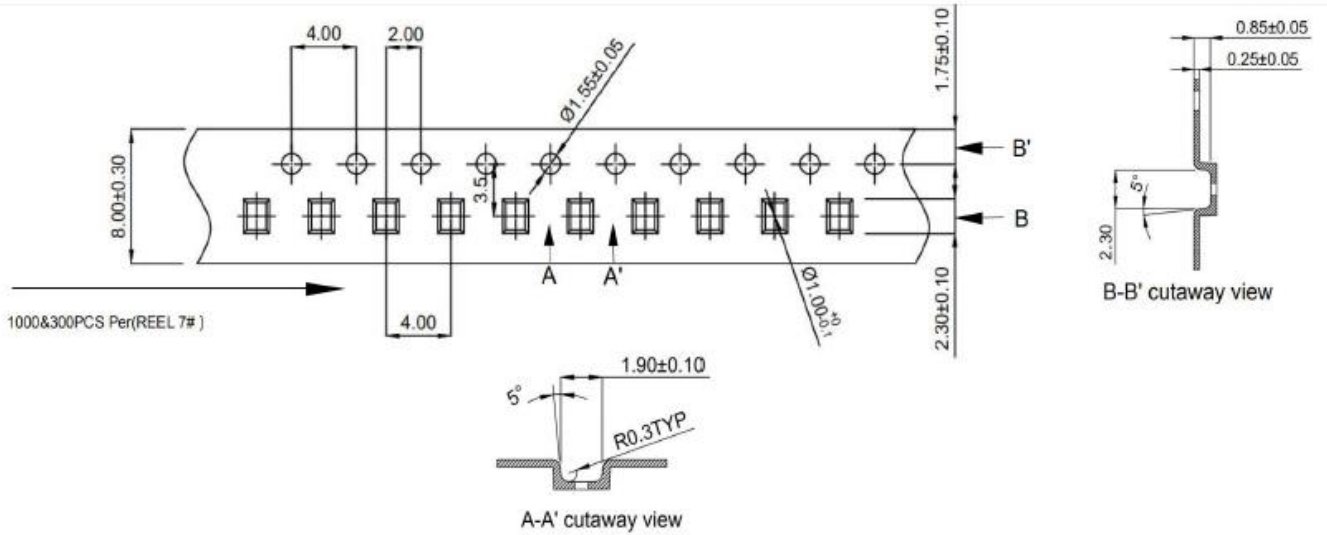
### 4. Reflow Soldering Curve (RoHS)



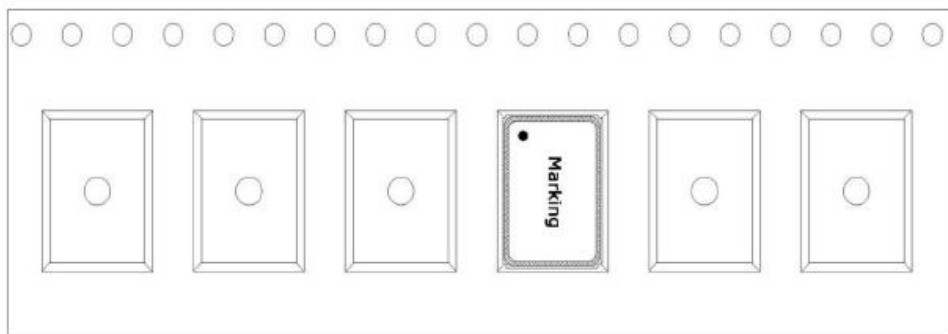
Reflow Profile		
Temperature MIN Preheat	$T_{SMIN}$	150°C
Temperature MAX Preheat	$T_{SMAX}$	200°C
Time ( $T_{SMIN}-T_{SMAX}$ )	$t_s$	60-180s
Temperature	$T_L$	217°C
Peak Temperature	$T_P$	260°C
Ramp-up Rate	$R_{UP}$	3°C/s max
Ramp-Down Rate	$R_{DOWN}$	6°C/s max
Time within 5°C of Peak Temperature	$t_p$	10s
Time t (25°C) to Peak Temperature	t (25°C) to Peak	480s
Time	$t_L$	60-150s



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



The Direction of Packing



Reel Dimensions

