

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

# DATASHEET

Standard:                     **T21-S589-48.00MHz**                    

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2023.07.12			

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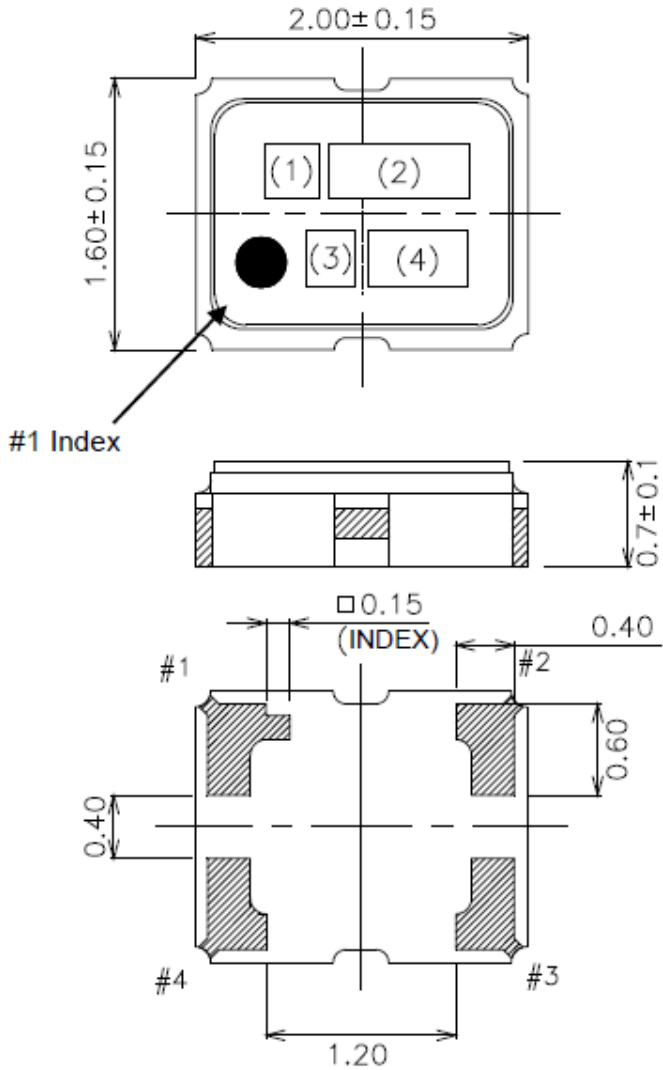


## 1、 Electrical Parameters

MODEL: T21-S589-48.00MHZ								
No	Parameters	SYM.	Electrical Spec.				Notes	
			Min.	Typ.	Max.	Units		
1	Nominal Frequency	-	48.00			MHz		
2	Supply Voltage	-	1.8		3.3	V		
3	Current consumption		-	-	2	mA		
4	Start-up time				2	ms		
5	Output Level	-	0.8	-	-	Vp-p		
6	Output Waveform		Clipped Sine wave			-		
7	Standard Output Load	-	10KΩ/10pF			-		
8	Frequency Stability	vs.Tolerance	-1.5	-	+1.5	$\times 10^{-6}$	@25±2°C 2H, After 2times reflow soldering, based on nominal frequency.	
9		vs. Temperature	-0.5	-	+0.5	$\times 10^{-6}$	TA= -40~+85°C measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2$ ,	
			-10	-	+10	$\times 10^{-6}$	TA= -40~+105°C measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2$ ,	
10		vs. Load	-	-0.2	-	+0.2	$\times 10^{-6}$	Vcc±5%
11		vs. Supply Voltage	-	-0.2	-	+0.2	$\times 10^{-6}$	Load±10%
12	Operating Temperature Range	-	-40	~	+105	°C		
13	Storage Temperature	-	-40	~	+105	°C		
14	Aging	-	-1.0	-	+1.0	$\times 10^{-6}$	Per year ( AT 25 °C ±2°C)	
15	Symmetry		40	50	60	%		
16	Harmonic distortion				-5	dBc		
17	Phase Noise @ 25°C±2°C				-125	dBc/Hz	1KHz	
18	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.						
19	Moisture Sensitivity Level	Level 2.						
20	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.						
21	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)



### Pin Connections

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

### Marking

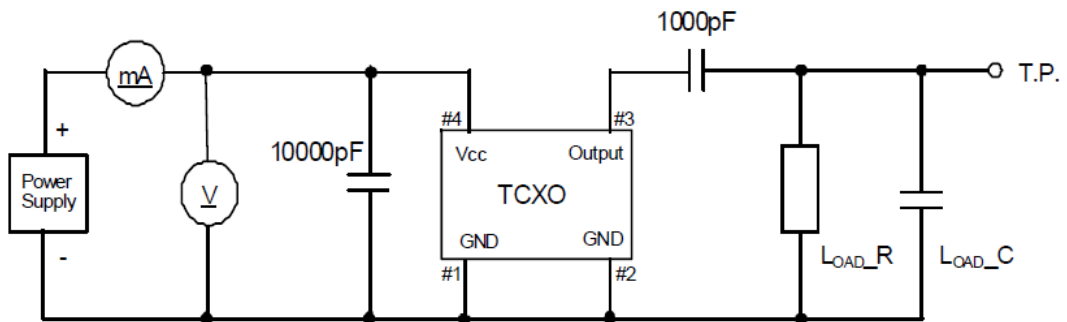
- (1) Model code      BN
- (2) Frequency      48.0 (MHz, 3digits)
- (3) Logo              D
- (4) Date code      Year (1digit) +Week (2digits)  
e.g.2018/1/1 → 801

unit: mm

Dimensional Tolerance:  $\pm 0.15$

(Unless otherwise noted)

## 3. Test Circuit

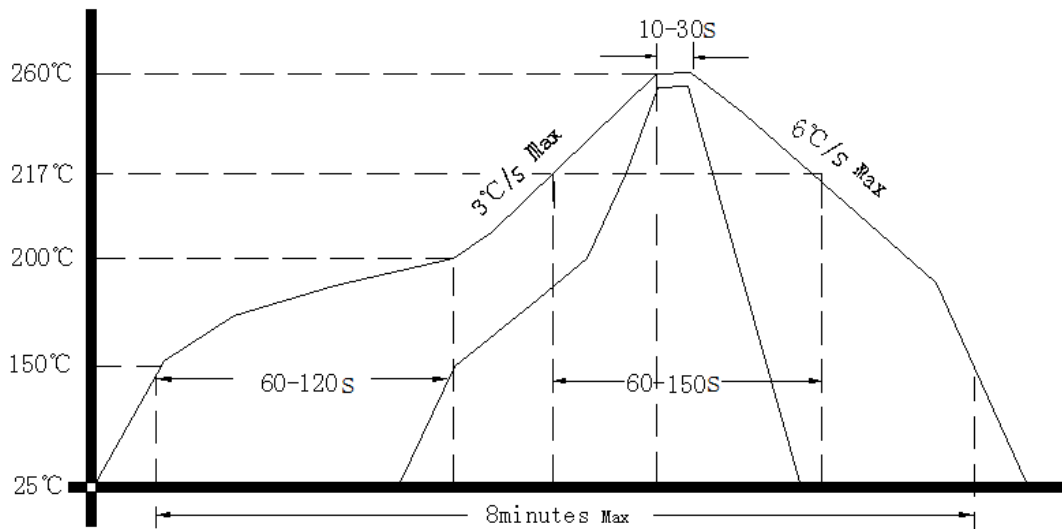


L<sub>LOAD\_R</sub>=10kΩ

L<sub>LOAD\_C</sub>=10pF (Include Jig stray capacitance)



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



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

