



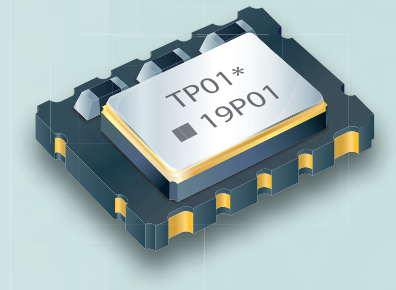
Precise SMD Temperature Compensated Crystal Oscillators

7.0 x 5.0 x 2.0 mm 7N Series (4 pad)

Oscillators Series

Features

- High Stability Over Temperature: $\pm 0.14\text{ppm} \sim \pm 0.28\text{ppm}$
- Operating Temperature Range: $-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$
- Holdover 24Hr: $\pm 40\text{ppb}$ (Option)
- Free Run Stability for 20 years: $\pm 4.6\text{ppm}$ (Option)
- Frequency: 10 ~ 52MHz
- Supply Voltage: 2.7V ~ 5.5V
- Voltage Control Function Available
- Output Enable/Disable Function Available
- Support Clipped Sinewave and CMOS Output Waveform
- Application: Small Cell, Base Station, Networking Infrastructure
- ROHS Compliant / Pb Free



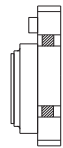
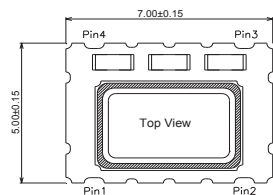
Electrical Specifications

Item / Type		7N	
Output Type		Clipped Sinewave	CMOS
Output Load		10K Ω //10pF	15pF
Output Voltage		0.8 Vp-p Min.	Output Low (VOL) 0.1 * Vcc Max. Output High (VOH) 0.9 * Vcc Min.
Supply Current		5 mA Max.	10 mA Max.
Oscillation Mode		Fundamental	
Supply Voltage		2.7 ~ 5.5 V	
Frequency Range		10 ~ 52 MHz	
Initial Frequency Tolerance at 25°C after 2 Reflows		± 2.0 ppm	
Frequency Tolerance	Vs. Temperature (- 40 ~ + 85 °C)	$\pm 0.14 / \pm 0.28$ ppm	
	Vs. Load (± 5 %)	± 0.1 ppm Max.	
	Vs. Supply Voltage (± 5 %)	± 0.1 ppm Max.	
Storage Temperature Range		$-55 \sim +125$ °C	
Auto Frequency Control Range (Option)		$\pm 5 \sim \pm 16$ ppm (1.5 \pm 1 V)	
Start-up Time		2.5 ms Max.	
Harmonics		-5 dBc Max.	
Phase Noise at 1KHz Offset		-130 dBc/Hz	
Aging		± 1 ppm / year Max.	
24 Hr Holdover Stability (Option) [#1]		± 40 ppb	
Free Run Stability for 20 Years (Option) [#2]		± 4.6 ppm	

[#1] 24 hours at constant temperature after 48 hours operation.

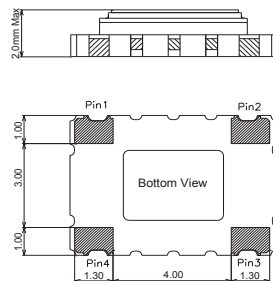
[#2] Inclusive of initial tolerance at 25°C , temperature, supply voltage $\pm 5\%$, load $\pm 5\%$, reflow soldering and ageing 20 years.

Dimensions

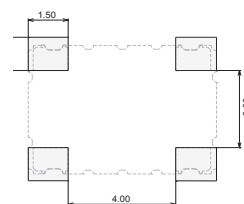


Pin Connection

Name	Function
Pin 1	AFC or GND
Pin 2	GND
Pin 3	OUTPUT
Pin 4	VCC



Recommended Land Pattern



Units: mm

