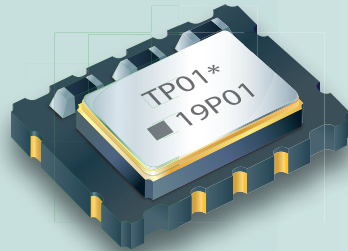


# Precise SMD Temperature Compensated Crystal Oscillators

## 7.0 x 5.0 x 2.0 mm 7N Series (10 pad)



### 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

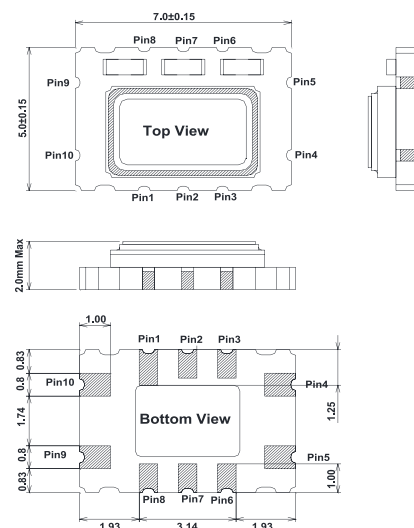
### Electrical Specifications

Item / Type		7N	
Output Type		Clipped Sinewave	CMOS
Output Load		10K $\Omega$ //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		$\pm 2.0$ ppm	
Frequency Tolerance	Vs. Temperature ( - 40 ~ + 85 °C )	$\pm 0.14 / \pm 0.28$ ppm	
	Vs. Load ( $\pm 5$ % )	$\pm 0.1$ ppm Max.	
	Vs. Supply Voltage ( $\pm 5$ % )	$\pm 0.1$ 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		$\pm 1$ ppm / year Max.	
24 Hr Holdover Stability (Option) [#1]		$\pm 40$ ppb	
Free Run Stability for 20 Years (Option) [#2]		$\pm 4.6$ 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	NC
Pin 2	NC
Pin 3	NC
Pin 4	GND
Pin 5	Output
Pin 6	NC
Pin 7	NC
Pin 8	Tri-State
Pin 9	VCC
Pin 10	AFC or GND

### Recommended Land Pattern



Units: mm

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