



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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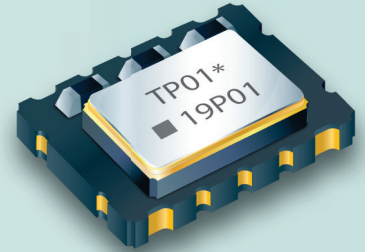


# Precise SMD Temperature Compensated Crystal Oscillators

## 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:  $\pm 0.40\text{ppb}$  (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



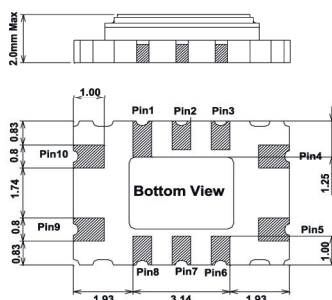
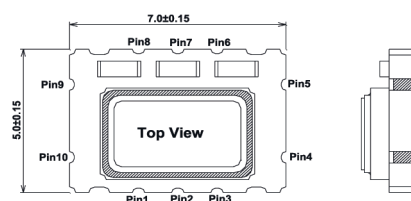
### Electrical Specifications

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.

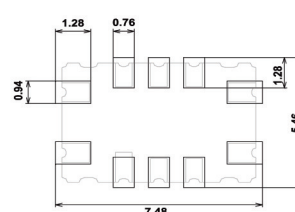
### Dimensions



#### 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