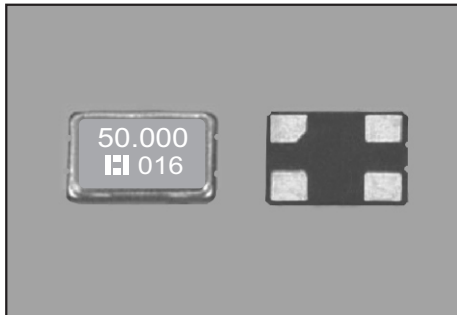




# SMD CRYSTAL OSCILLATOR



## • HXO-N Series



The HXO-N series is an ultra miniature package clock oscillator with size of 2.5X2.0X0.9mm. It is mainly used in portable PC and telecommunication devices and equipment.

### FEATURES

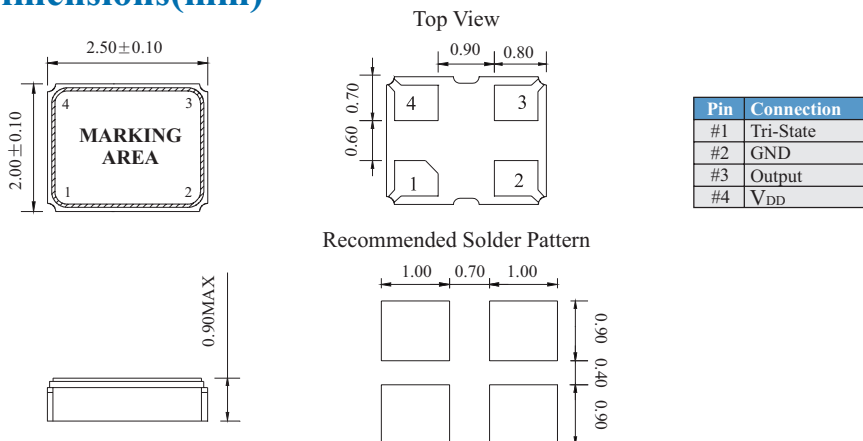
- 2.5X2.0X0.9 Miniature Package
- Tri-State Enable/Disable
- TTL/HCMOS compatible
- Tape and Reel
- IR Re-flow
- 3.3V,2.5V,1.8V and 1.5V option

## Electrical Specifications

Parameter	Condition	HXO-NC	HXO-ND	HXO-NE	HXO-NG	
Frequency Range	F <sub>0</sub>	1MHz~54MHz				
Frequency Stability*	All Condition*	±25ppm, ±50ppm, ±100ppm				
Operating Temperature Range	T <sub>OPR</sub>	-20°C~+70°C (-40°C~+85°C option)				
Storage Temperature Range	T <sub>STG</sub>	-55°C~+125°C				
Power supply Voltage	V <sub>DD</sub>	3.3V+/-10%	2.8V+/-10%	1.8V+/-10%	1.5V+/-10%	
Supply Current	I <sub>DD</sub>	1MHz to 9.999MHz	8mA Max	7mA Max	6mA Max	5mA Max
		10MHz to 34.999MHz	10mA Max	8mA Max	7mA Max	6mA Max
		35MHz to 49.999MHz	25mA Max	20mA Max	15mA Max	15mA Max
		50MHz to 54.000MHz	35mA Max	30mA Max	25mA Max	25mA Max
Output Symmetry	Sym	At 1/2V <sub>DD</sub>				
Rise time	T <sub>r</sub>	40/60%(45/55% Option)				
Fall Time	T <sub>f</sub>	5 nS Max	6 nS Max	7 nS Max	7 nS Max	
Output Voltage	V <sub>OH</sub>	90% V <sub>DD</sub> Min				
	V <sub>OL</sub>	10% V <sub>DD</sub> Max				
Output Load	HCMOS Load	15pF Typ.				
Start Time	T <sub>s</sub>	10mS Max				
Stand-by Function		Yes				
Aging(First Year)		25°C ±3°C				
Pin 1,tri-state function		±2ppm Max				
		Pin 1=H or open....Output active at pin 3				
Packing Unit		Pin 1=L.....high impedance at pin 3				
		3000pcs/reel				

\*Include: 25°C tolerance, operating temperature range, input voltage change, aging, load change, shock and vibration

## Mechanical Dimensions(mm)



\*\*Note: 0.01uF bypass capacitor should be placed between V<sub>DD</sub>(Pin4) and GND(Pin2) to Minimize power supply line noise

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Specifications are subject to change without notice