

Features

Frequency 16.8 MHz
5.0 mm x 3.2 mm x 1.7 mm ceramic SMD
+/- 2.5 ppm total aging over 20 years
CMOS square wave
+/- 0.500 ppm from -55C to 80C
Reference to $(F_{max} + F_{min}) / 2$

Picture of Part



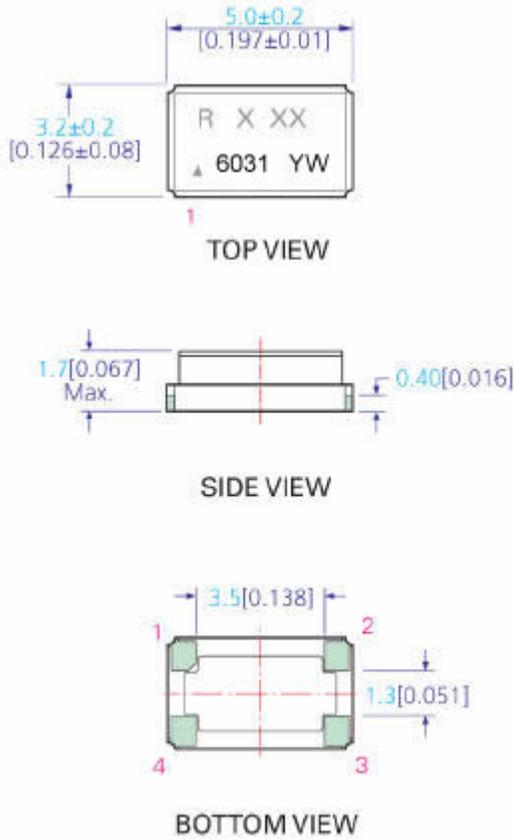
Typical Applications

Femtocells, GPS Receivers
Mobile Radio
System Clocks for wide range of applications

Description

The TCXO6031RHP family offers low noise compensation techniques combined with aggressive conditioning processes resulting in outstanding long term frequency stability, tightly distributed performance parameters, and superior long term reliability.

Mechanical Drawing and PIN Connections



Pad	Function
1	No Connection for Clock
2	Ground
3	RF out
4	Vcc

Specifications

TCXO Specification	Sym.	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency Range	f_0			16.800000		MHz	
CMOS Square wave	Load				15	pF	
	H - level voltage	V_H		0.9Vcc		V	
	L - level voltage	V_L			0.1Vcc	V	
	Rise & Fall time		@ 20MHz CMOS		8.0	ns	
	Duty cycle			45	55	%	
Power supply							
Voltage	V_{cc}		3.135	3.300	3.465	V	
Current consumption	I_{cc}			2.7	6.0	mA	@ 16.8 MHz cmos ; current will always be near 2.7 mA with 15 pF load
Frequency control*							
**NOTE : No Control voltage Function for this custom part				N/A			Clock TCXO
Frequency stability							
vs. temperature (SEE BELOW)		-55°C to +80°C, ref : see below	-0.500		+0.500	ppm	
vs. 5% change in supply voltage		ref Vcc typ.	-0.100		+0.100	ppm	
Tolerance at 25C			-1.000		+1.000	ppm	Frequency 1 hr after reflow
SSB Phase noise @16.8 MHz CMOS typical		100 Hz		-112		dBc/Hz	
		1000 Hz		-132			
		10 kHz		-139			
		100KHz		-142			
Total Aging	Over 20 years	Projected after 30 days operation	-2.500		+2.500	ppm	
Environmental, and PPM Measurement Criteria							
Operating temperature range	-55°C to +80°C maximum range available that is standard						
Storage temperature range	-55°C to +125°C						
For Frequency versus Temperature	The reference frequency for ALL temperatures will be (Fmax + Fmin) / 2 (max and min across -55C to 80C)						
Stability Calculation using a FORMULA	To calculate relative stability at 80C for example :						
For REFERENCE FREQUENCY	Freq (ppm at 80C from nominal) - (Fmax + Fmin) / 2 will be Delta_F which will be <= +/- 0.50 ppm						