



Features and Benefits

Frequency range: 1.5-170MHz
Supply voltage: 2.5/3.3V
Current: 12mA Max.
Frequency stability vs. temperature: ±25PPM
Aging: ±3PPM 1st year
Operating temperature: -40°C to +85°C
Size: 2.5x2.0x1.0 mm

Typical Applications

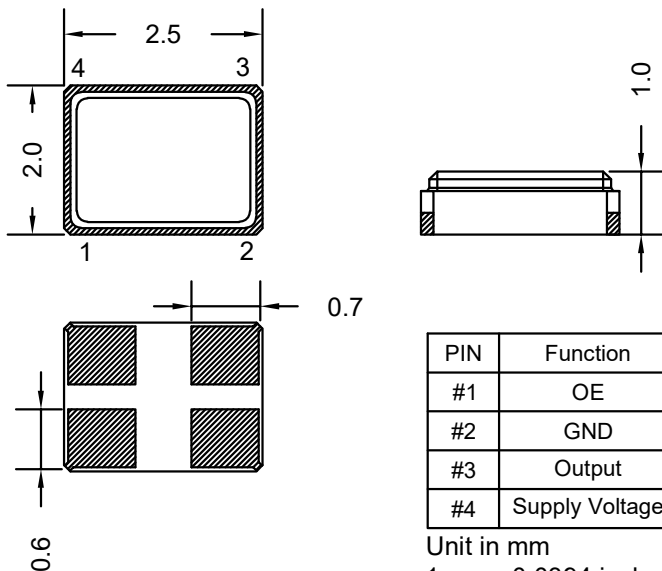
Cellular Base Stations
Instrumentation
Microwave Applications
Radar reference

Description

The XO2520AX is designed for applications where exceptional frequency stability and timing is required. It has both excellent temperature performance and short-term stability. These characteristics make it an excellent choice for timing applications.

Mechanical Drawing & Pin Connections

Drawing No: MD24003+-1



PIN	Function
#1	OE
#2	GND
#3	Output
#4	Supply Voltage

Unit in mm
1mm = 0.0394 inches



Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Frequency Range	F _{nom}	Fundamental	1.5		60	MHz	
		3 rd overtone (Non-PLL)	50		170	MHz	
RF Output							
Signal Waveform			HCMOS				
Load	R _L			15		pF	
H-Level Voltage	V _H		90%V _{cc}			V	
L- Level Voltage	V _L				10%V _{cc}	V	
Duty Cycle			45	50	55	%	
Rise/Fall time					4	ns	
Output Control			Enable – High Disable -- Low				
Power Supply							
Supply Voltage	V _{cc}			2.5		V	See ordering information
Start up Time	T _{up}				5	ms	
Current Consumption		1.5-19MHz			6.0	mA	
		20-39MHz			8.0	mA	
		40-60MHz			10	mA	
		60-100MHz			12	mA	
Frequency Stability							
Versus Operating Temperature Range		Reference to +25°C		±25		ppm	See ordering information
Perturbation					±3.0	ppm	
Aging 1 st Year					±3.0	ppm	
Aging 5 years					±5.0	ppm	
SSB Phase noise (100MHz)		10Hz		-60		dBc/Hz	@+25°C
		100Hz		-95		dBc/Hz	
		1kHz		-114		dBc/Hz	
		10kHz		-120		dBc/Hz	
		100kHz		-140		dBc/Hz	
Environmental, Mechanical Conditions							
Operating temperature range			-20°C to +70°C, -40°C to +85°C				

Ordering Information

XO2520AX	-	10MHz	-	x	x	x	x
Group				01	02	03	04

For example, XO2520AX-10MHz-1-1-2-2 denotes the XO has the following specifications:

Temperature Range: -20°C to +70°C
 Stability Over Temperature: ±25ppm
 Supply Voltage: 3.3V
 Output Type: HCMOS

01	Temperature Range
Code	Specification
1	-20°C to +70°C
2	-40°C to +85°C

02	Frequency Stability
Code	Specification
1	±25ppm
2	±50ppm
3	±100ppm

03	Supply Voltage
Code	Specification
1	2.5V
2	3.3V

04	Output Type
Code	Specification
1	CMOS/TTL
2	HCMOS