



### Features and Benefits

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

### Typical Applications

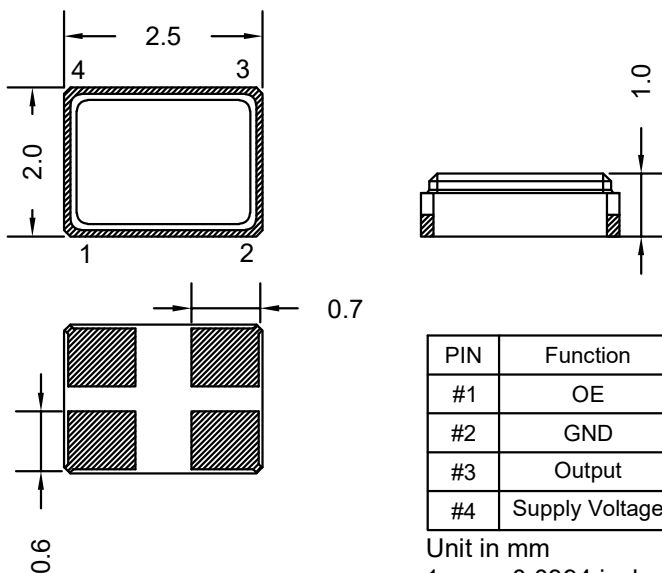
- Cellular Base Stations
- Instrumentation
- Microwave Applications
- Radar reference

### 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





**Specifications**

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Frequency Range	F <sub>nom</sub>	Fundamental	1.5		60	MHz	
		3 <sup>rd</sup> overtone (Non-PLL)	50		170	MHz	
<b>RF Output</b>							
Signal Waveform			HCMOS				
Load	R <sub>L</sub>			15		pF	
H-Level Voltage	V <sub>H</sub>		90%V <sub>cc</sub>			V	
L- Level Voltage	V <sub>L</sub>				10%V <sub>cc</sub>	V	
Duty Cycle			45	50	55	%	
Rise/Fall time					4	ns	
Output Control			Enable – High Disable -- Low				
<b>Power Supply</b>							
Supply Voltage	V <sub>cc</sub>			2.5		V	See ordering information
Start up Time	T <sub>up</sub>				5	ms	
Current Consumption		1.5-19MHz			6.0	mA	
		20-39MHz			8.0	mA	
		40-60MHz			10	mA	
		60-100MHz			12	mA	
<b>Frequency Stability</b>							
Versus Operating Temperature Range		Reference to +25°C		±25		ppm	See ordering information
Perturbation					±3.0	ppm	
Aging 1 <sup>st</sup> 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	
<b>Environmental, Mechanical Conditions</b>							
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