

# XO5180 Series

1x0.87 inch, 5.0 Volt, HCMOS or Sinewave, OCXO

- Surface mount package offering both AT and SC-cut crystals
- Ideal for microwave radios (short haul), base stations and test equipment applications where size and package style (SMT) are critical

**Ordering Information**

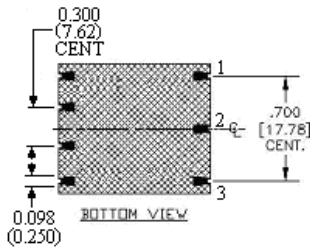
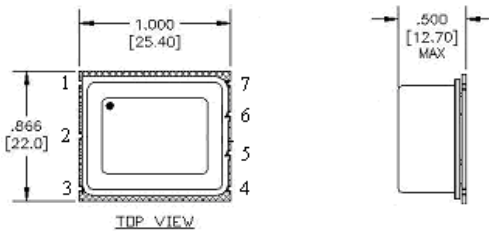
00.0000  
MHz

XO518x

**Product Series**

- 5181: AT/Sine
- 5182: AT/HCMOS
- 5183: SC/Sine
- 5184: SC/HCMOS

**Frequency (Customer Specified)**



PIN	FUNCTION
1	V <sub>tune</sub>
2	V <sub>ref</sub>
3	Supply
4	RF Output
5	N/C
6	N/C
7	Ground

Pin Numbers Shown for Reference Only  
Dimensions are in Inches (mm)

OTR °C	SC-Cut	AT-Cut
0 to +50	±5x10 <sup>-9</sup>	±2x10 <sup>-8</sup>
0 to +70	±10x10 <sup>-9</sup>	±2x10 <sup>-8</sup>
-10 to +70	±10x10 <sup>-9</sup>	±2x10 <sup>-8</sup>
-30 to +70	±10x10 <sup>-9</sup>	±3x10 <sup>-8</sup>
-40 to +70	±10x10 <sup>-9</sup>	±3x10 <sup>-8</sup>
-40 to +85	±20x10 <sup>-9</sup>	±4x10 <sup>-8</sup>

	PARAMETER	Symbol	Minimum	Typical	Maximum	Units	Condition		
Electrical Specifications	Frequency Range	F <sub>ON</sub>	10		100	MHz			
	Operating Temperature	T <sub>A</sub>	-40 to +85			°C	Consult Factory		
	Stability Over Temperature	ΔF/F	±20	±30		ppb	AT-Cut		
			±5	±30		ppb	SC-Cut		
	Short Term Stability			0.1		ppb	AT-Cut		
				0.01		ppb	SC-Cut		
	Daily Aging			±1.0		ppb	AT-Cut		
	Yearly Aging			±0.5		ppm	AT-Cut		
	Daily Aging			±0.1		ppb	SC-Cut		
	Yearly Aging			±0.3		ppm	SC-Cut		
	Frequency vs. Supply			±1		ppb			
	Frequency vs. Load			±1		ppb			
	Supply Voltage	V <sub>S</sub>	3.3 to 12			Volts	Consult Factory		
	Power Consumption	@ Warm-Up			3.5	Watts			
			Steady State @ 25°C		1.25	Watts			
	Warm-Up Time @ 25°C		To within ±1 x 10 <sup>-7</sup> in 3 minutes				Minutes		
	HCMOS Output Signal	V <sub>S</sub> = +3.3V or +5V	Rise/Fall Time		5nsec	7nsec			
			Logic "0" Level	0.2			Volts		
			Logic "1" Level				V <sub>S</sub> - 0.2	Volts	
			Symmetry	40			60	%	
Output Load				10			pF		
Sinewave Output Signal	Level			+3		dBm			
		Output Load			50		Ω		
Frequency Adjustment (Pin 1)	External Voltage	V <sub>C</sub>	0	Positive	10	Volts	Consult Factory		
			Range		±4		ppm	AT-Cut	
			Range		±2		ppm	SC-Cut	
			Input Impedance (Pin 1)	20			KΩ		
Phase Noise	Typical @ 10MHz		AT-Cut		SC-Cut				
			1 Hz	-80	-90	dBc/Hz			
			10 Hz	-115	-120	dBc/Hz			
			100 Hz	-140	-140	dBc/Hz			
			1 kHz	-145	-150	dBc/Hz			
			10 kHz	-150	-155	dBc/Hz			
Environmental	Mechanical Shock	Per MIL-STD-202, Method 213, Condition C							
	Vibration	Per MIL-STD-202, Method 201 & 204							
	Storage Temperature	-55°C to +125°C							
	Hermeticity	Per MIL-STD-202, Method 112							
	Solderability	Per EIAJ-STD-002							

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