



### Features and Benefits

Frequency range: 1KHz--800MHz  
Supply voltage: 3.3V or 5.0V  
Steady current: 15-50mA Max  
Output waveform: HCMOS  
Frequency stability vs. operating temperature: 0.5ppm  
Aging: 1.0ppm per year  
Phase noise@100KHz: -145dBc/Hz  
Operating temperature: -40°C to +85°C  
Size: 11.4x9.6x4.5mm

### Typical Applications

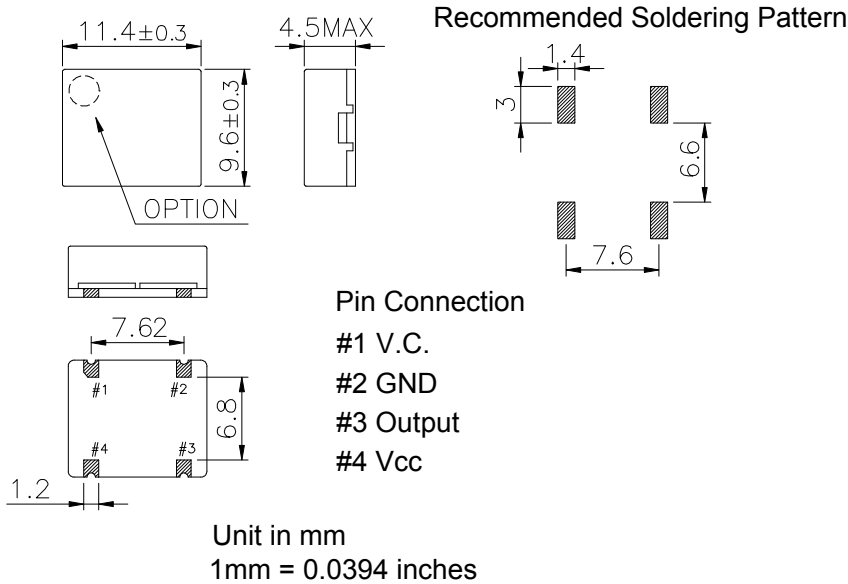
UHF Synthesizers  
SATCOM System  
Portable Microwave Applications

### Description

TCXO1196BE\_HCMOS offers wide temperature operation with outstanding frequency stability and low phase noise performance.

### Mechanical Drawing & Pin Connections

Drawing No: A88\$\$\$) \$!&





**Specifications**

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Frequency Range	F <sub>nom</sub>	All combination of Frequency range Vs. Package type might not be available, please contact factory.	1KHz		800MHz		
<b>RF Output</b>							
Signal Waveform			HCMOS				
Load	R <sub>L</sub>		15			pF	
H-Level Voltage	V <sub>H</sub>		90% Vcc			V	
L- Level Voltage	V <sub>L</sub>				10% Vcc	V	
Duty Cycle			40		60	%	
Rise/Fall time					10	ns	
<b>Power Supply</b>							
Supply Voltage	V <sub>cc</sub>	±5%		5.0		V	
		±5%		3.3			
Input Current		1KHz			15	mA	
		40MHz			30	mA	
		800MHz			50	mA	
<b>Frequency Adjustment Range</b>							
Frequency Adjustment			±3ppm min by internal trimmer (OPTION)				
Output Pulling Range			±5.0ppm or ±10ppm min				
ΔF/ΔV			ΔF/ΔV >±20ppm is available, please contact us				
Control Voltage Range			1.65V ± 1.5V ( Vcc : 3.3V ), 2.5V ± 2.0V ( Vcc : 5.0V )				
<b>Frequency Stability</b>							
Versus Operating Temperature Range			±1.0		±5.0	ppm	See ordering information
Versus supply voltage		±5% change			±0.2	ppm	
Versus Load		±10% change, 15pF load			±0.2	ppm	
Aging 1 <sup>st</sup> Year					±1.0	ppm	
SSB Phase noise (20MHz)		10Hz		-80		dBc/Hz	
		100Hz		-120		dBc/Hz	
		1kHz		-135		dBc/Hz	
		10kHz		-140		dBc/Hz	
		100kHz		-145		dBc/Hz	
<b>Environmental, Mechanical Conditions</b>							
Operating temperature range	See ordering information						
Storage temperature range	-55°C to +125°C						
Shock	MIL-STD-883C, Method 2002, Condition B						
Solderability	MIL-STD-883C, Method 2003						
Seal integrity	MIL-STD-883C, Method 1014, Condition C & A2						
Vibration	MIL-STD-883C, Method 2007, Condition A						
Marking	MIL-STD-202F, Method 215						



### Ordering Information

TCXO1196BE_HCMOS	-	10MHz	-	x	x	x	x	x
Group				01	02	03	04	05

For example, TCXO1196BE\_HCMOS-10MHz-1-1-2-2-1 denotes the TCXO has the following specifications:

Temperature Range: 0°C to +50°C  
 Stability Over Temperature: ±0.5ppm  
 Supply Voltage: 5V  
 Trimmer: With Trimmer  
 Frequency: 10MHz  
 Pulling Range: ±5ppm min

01	Temperature Range
Code	Specification
1	0°C to +50°C
2	-10°C to +60°C
3	-20°C to +70°C
4	-30°C to +75°C
5	-40°C to +80°C
6	-40°C to +85°C

02	Stability
Code	Spec
1	±0.5ppm
2	±1.0ppm
3	±1.5ppm
4	±2.0ppm
5	±2.5ppm
6	±3.0ppm
7	±3.5ppm
8	±5.0ppm

03	Supply Voltage
Code	Specification
1	3.3V
2	5V

04	Trimmer
Code	Specification
1	Without Trimmer
2	With Trimmer

05	Pulling Range
Code	Specification
1	±5ppm min
2	±10ppm min