



Features and Benefits

- 7.0 mm x 5.0 mm ceramic SMD package
- Up to ± 0.28 ppm frequency stability (over -40°C to $+85^{\circ}\text{C}$)
- 3.3V supply with CMOS output
- 6mA low power consumption
- Compact and light weight
- Compatible for automatic assembly

Typical Applications

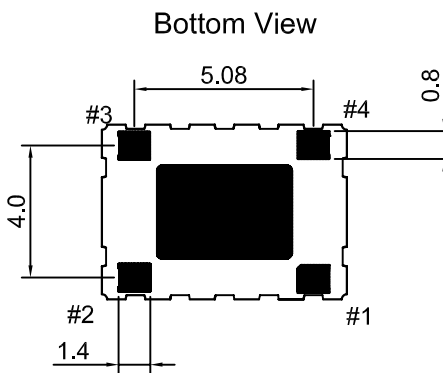
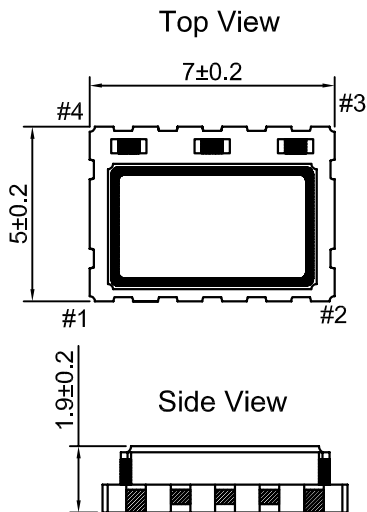
- WIFI/WiMAX, WLAN, Wireless Communications
- Base Stations, Femtocell
- Mobile Devices

Description

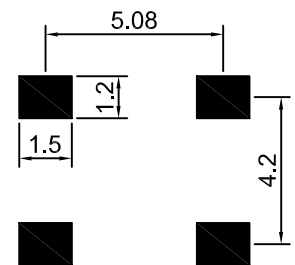
TCXO7500S-30MHz-A-V offers superior frequency stability and low power consumption in a compact SMD package, which is suitable for numerous wireless communication, base stations, Femtocell and mobile applications.

Mechanical Drawing & Pin Connections

Drawing No: MD160036-1



Recommend Soldering Pattern



Unit in mm
1mm = 0.0394 inches

Pin	Function
#1	VCON
#2	GND
#3	Output
#4	VDD

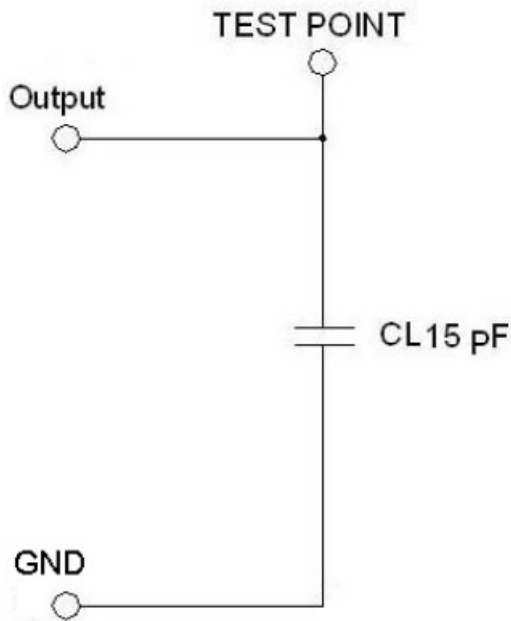


Specifications

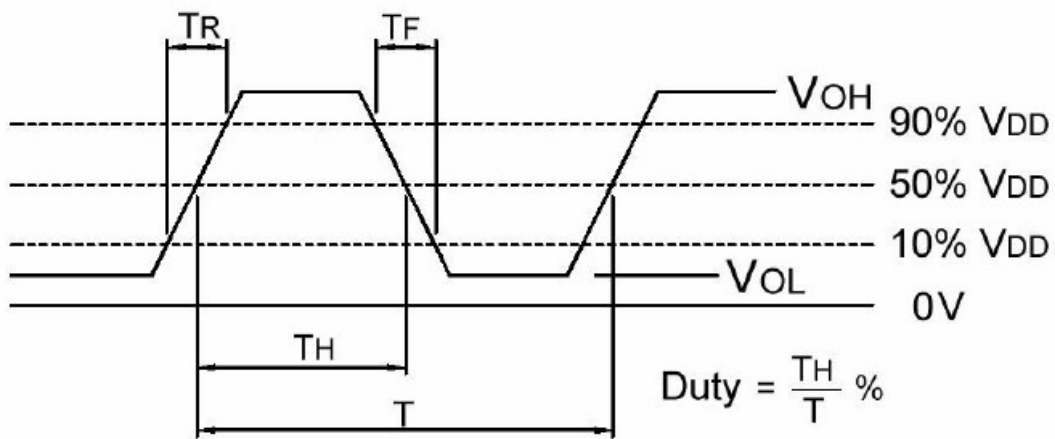
Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Nominal Frequency	F ₀			30		MHz	
Output Waveform			CMOS				
Output Voltage Level High	V _{OH}		2.97			V	
Output Voltage Level Low	V _{OL}				0.33	V	
Output Load Capacitance		Operating range			15	pF	
Duty Cycle		Measured at 50% VDD trigger level	45	50	55	%	
Rise / Fall Time					6	ns	
Start Time					2	ms	
Power Supply							
Supply Voltage	V _s		2.97	3.3	3.63	V	
Current Consumption					6	mA	
Control Voltage							
Control Voltage Range			0.5	1.5	2.5	V	
Pulling Range		Referenced to VCON at 1.5V	±5			ppm	
Vcon Input Impedance		Measured between VCON and GND pin				kOhm	
Linearity					10	%	
Frequency Stability							
Nominal Frequency Tolerance		Frequency at +25°C, before reflow	-0.5		+0.5	ppm	
Over Operating Temperature		Reference to the midpoint between minimum and maximum frequency value	-0.28		+0.28	ppm	
Temperature Range		The operating temperature range over which the frequency stability is measured	-40		+85	°C	
Vs Supply Voltage changes	V _s	Supply voltage varied ±5% at +25°C	-0.2		+0.2	ppm	
Vs. Aging		Year at +25°C	-1		+1	ppm	
Allan Deviation		Gate time. Tau = 1 second. 100 samples		0.3		ppb/s	
Phase Noise		@ 10 Hz offset		-90		dBc / Hz	
		@ 100 Hz offset		-120			
		@ 1 KHz offset		-140			
Environmental Conditions		Reference Standards	Test Condition				
Operating Temperature Range			-40°C to +85°C				
Storage Temperature Range			-40°C to +85°C				
Vibration Test		MIL-STD-883 2007 Condition A JESD22-B103 Condition 1	10~2000 Hz, 1.52mm, 20G, each axis for 4 hours				
Thermal Shock		MIL-STD-883 1010 Condition B JESD22-A104 Condition B	-55°C, +125°C; soak time is 10 mins, with total 200 cycles				
Mechanical Shock		MIL-STD-883 2002 Condition B JESD22-B104 Condition B	1500G, half-sine, 0.5ms, each axis for 3 times				



Test Circuit



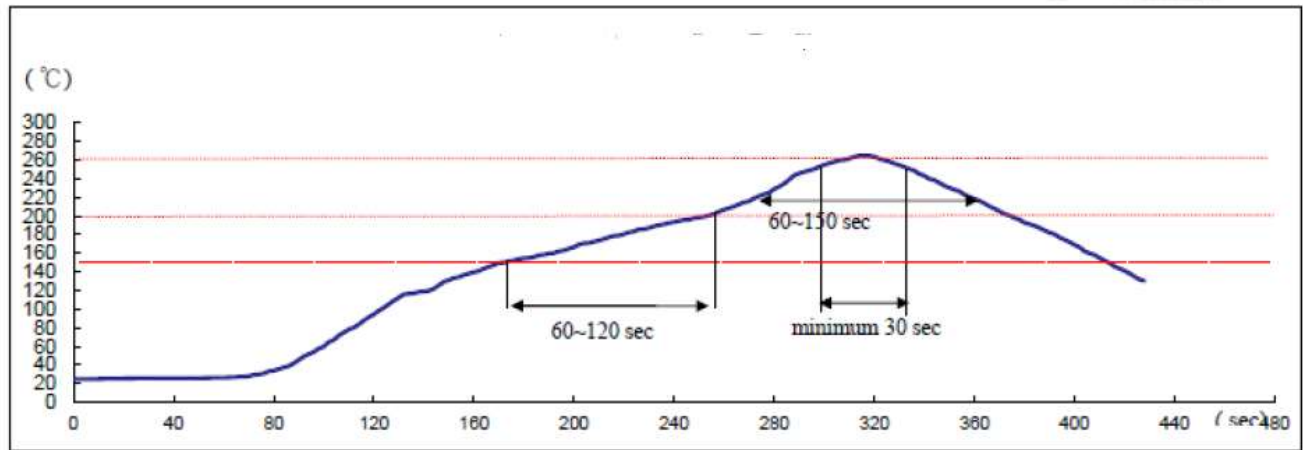
Output Waveform





Recommended IR Reflow Profile

IR reflow profile of ceramic SMD products for Pb free process

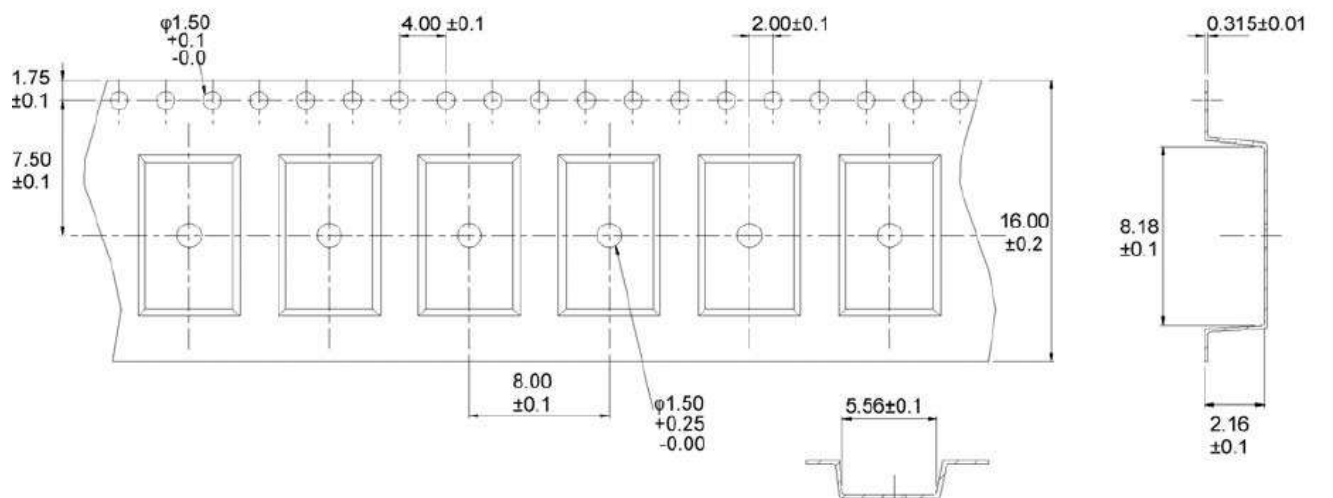


Reference Standard: JEDEC-STD020

Test Conditions: Pre-heating: 150°C to 200°C, 60~120 secs
Heating: 217°C, 60~150 secs
Peak temperature at least: 260°C, the time above 255°C" minimum 30 sec

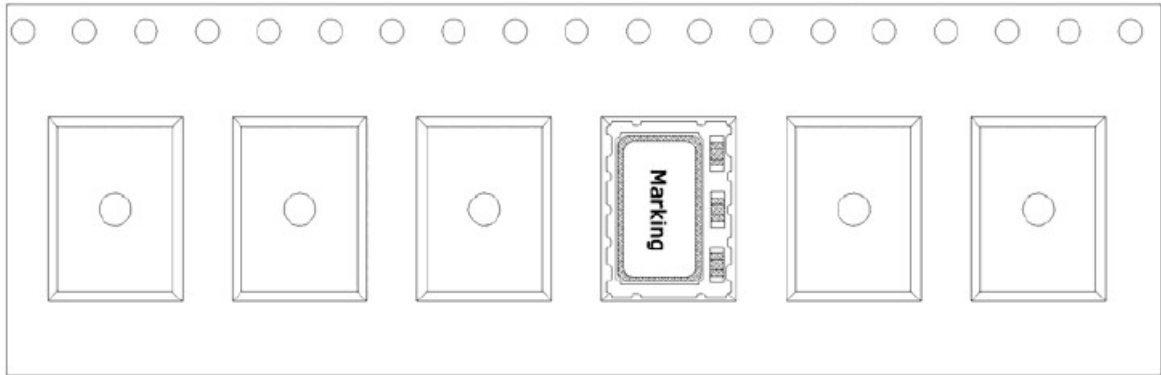
Package Information

TAPE (CARRIER) DIMENSIONS





THE DIRECTION OF PACKING



REEL DIMENSIONS

