

" OCXO " [Oven Controlled Crystal Oscillators]

OC12T

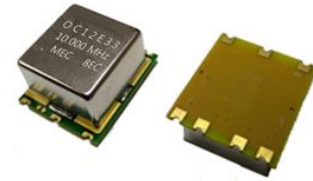
Square Wave

OC12E

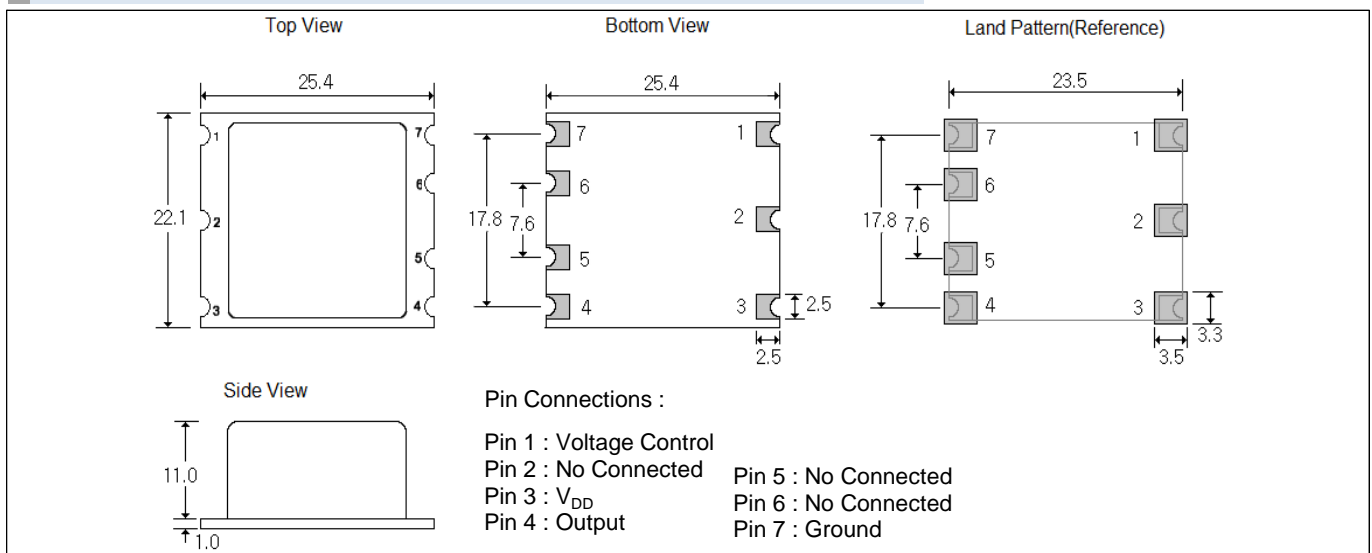
True Sine Wave

Best stability
± 10 ppb
**Standard
OCXO Series**
SMD
3.3V
5.0V
Min.
5 MHz
Max.
40 MHz
Applications

- OC12_ (25.4 * 22.1 * 11.0 mm)
- +3.3V , +5.0V Supply Voltages
- Voltage control (Electronic Frequency Tuning) is standard .


General Specifications (at +25°C and specified input voltage)

Output Wave Form		Square wave. Wave form code is " T "		True Sine Wave. Wave form code is " E "			
Supply Voltage		+3.3 V	+5.0 V	+3.3 V	+5.0 V		
Supply Voltage range , " Voltage code "		+3.3V ± 5% , " 3 "	+5.0V ± 5% , " 5 "	+3.3V ± 5% , " 3 "	+5.0V ± 5% , " 5 "		
Frequency Range		5 ~ 40.0 MHz		5 ~ 40.0 MHz			
Initial Calibration Tolerance		± 200 ppb (max.)	± 200 ppb (max.)	± 200 ppb (max.)	± 200 ppb (max.)		
		Vcon = +1.65 V	Vcon = +2.5 V	Vcon = +1.65 V	Vcon = +2.5 V		
Type of Crystal Cut Used		" SC - cut " crystal or " IT - cut " crystal					
Frequency Stability		± 5 ppb (max.) over 0°C to +70°C					
		± 10 ppb (max.) over -30°C to +70°C					
		± 10 ppb (max.) over -40°C to +85°C					
		vs Voltage Change ± 0.5 ppb (max.) , for a ± 5% input voltage change .					
vs Warm-up time (+25°C)		10 minute max. Within ± 10 ppb of its reference frequency.					
vs Aging		± 0.5 ppb max./after 30 days ; ± 50 ppb max./first year ; ± 400 ppb max. over 10 years.					
Voltage Control		Freq. Deviation Range ± 0.5 ppm min. , ±5 ppm max. Reference to fo at +25°C and over operating temperature range.					
On pin 1 (EFC)		Control Voltage Range		+1.65V ± 1.65V	+2.5V ± 2.5V		
		Transfer Function		Positive : Increasing control voltage increases output frequency .			
(Electronic Freq. Tuning)		Input Impedance		50 K ohms min.			
		EFC Linearity		± 10 % (max.)			
Power		Power Dissipation (at +25°C) 1.2 Watts max. at steady-state; 1000 mA max. at turn-on.					
Output		Output Level (for True Sine)		---	---		
		Harmonic (for True Sine)		---	---		
		Spurious (for True Sine)		---	---		
		Load		15pF		50 Ω	
		Output Logic High (V _{OH})		+2.4 V (min.)	+2.4 V (min.)	---	---
		Output Logic Low (V _{OL})		+ 0.4 V (max.)	+ 0.4 V (max.)	---	---
		Duty Cycle (V _{DD})		50 % ± 5% @ +1.4V			
		Rise and Fall Time		7 nS (max.) (20% → 80% of waveform)			
		Phase Noise Offset [10.0 MHz] (typical)		1 Hz		10 Hz	1 KHz
-98 dBc				-126 dBc	-145 dBc	-152 dBc	

Outline Dimensions (Unit : ±0.2 mm)


" OCXO " [Oven Controlled Crystal Oscillators]

Square wave " OC _ T "

Clipped Sine Wave " OC _ S "

True Sine Wave " OC _ E "

Part Number Format and Example

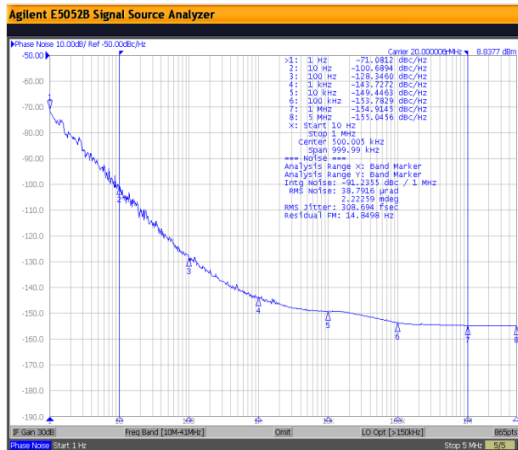
[1]	[2]	[3]		[6]		[7]		[8]
Holder Type	Output Wave	Supply Voltage	-	Center Frequency	-	Frequency Stability	/	Operating Temp. Range

Examples	(1)	(2)	(3)		(6)		(7)		(8)
	OC12	E	3	-	10.000	-	200	/	0+70
	OC18	E	12	-	100.000	-	100	/	-30+70
	OC51	S	3	-	10.000	-	30	/	-20+70
	OC14	T	5	-	5.000	-	10	/	-40+85

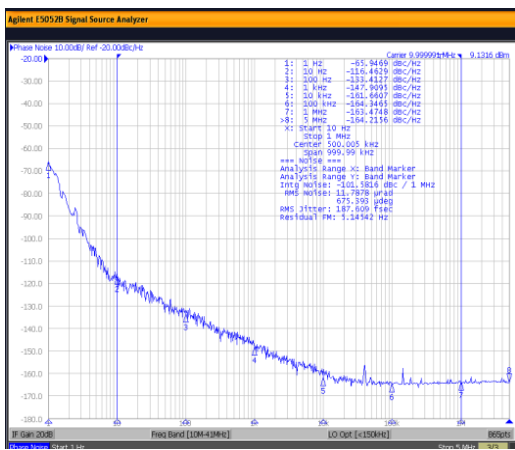
Ex (1) : OC12E3 - 10.000 - 200 / 0+70 [OC12 type , True Sine wave , 3.3V , 10.000MHz , ± 200ppb from 0°C to 70°C]
 Ex (2) : OC18E12 - 100.000 - 100 / -30+70 [OC18 type , True Sine wave , 12V , 100.000MHz , ± 100ppb from -30°C to 70°C]
 Ex (3) : OC51S3 - 10.000 - 30 / -20+70 [OC51 type , Clipped Sine Wave , 3.3V , 10.000MHz , ± 30 ppb from -20°C to 70°C]
 Ex (4) : OC14T5 - 5.000 - 10 / -40+85 [OC14 type , Square Wave , 5.0V , 5.000MHz , ± 10 ppb from -40°C to 85°C]

[1]	Holder Type " OC _ " stands for OCXO ,
[2]	" T " stands for Square Wave , " E " stands for True Sine Wave , " S " stands for Clipped Sine Wave ex 1 : OC14T, OC14 package, Square Wave output ; ex 2 : OC18E, OC18 package, True Sine wave ; ex 3 : OC51S, OC51 package, Clipped Sine Wave
[3]	Supply voltage , " 3 " for 3.3V D.C , " 5 " for 5.0V D.C , " 12 " for 12V D.C
[4]	Center Frequency in MHz
[5]	Frequency stability in ± _ ppb ; ex 1 : ±200ppb ---200 , ex 2 : ± 30ppb ---30 , ex 3 : ± 5ppb --- 5
[6]	Operating temperature range in °C ex 1 : 0 °C to 70°C ----- 0+70 ; ex 2 : -30 °C to 70°C ----- -30+70 ; ex 3 : -40 °C to 85°C ----- -40+85

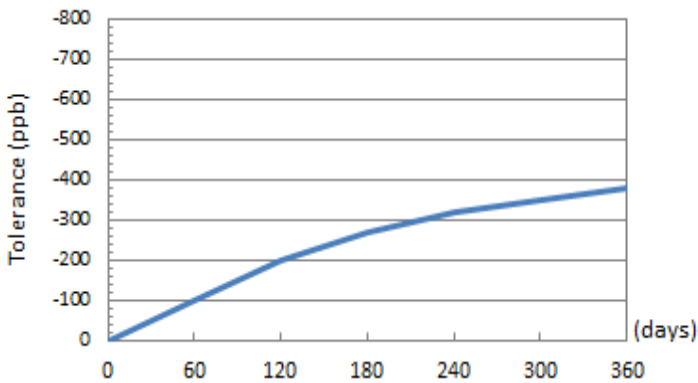
SSB Phase Noise : Clipped Sine Wave(OC51S-20.000)



SSB Phase Noise : Square wave(OC13T-10.000)



Aging : OC51S-20.000



Power Consumption vs Temperature (OC13T5-10.000)

