

" OCXO " [Oven Controlled Crystal Oscillators]

OC18T

Square Wave

OC19T

Square Wave

Best stability

±10 ppb

Standard
OCXO
Series

DIP

3.3V

5.0V

Min.

5 MHz

Max.

40 MHz

Applications

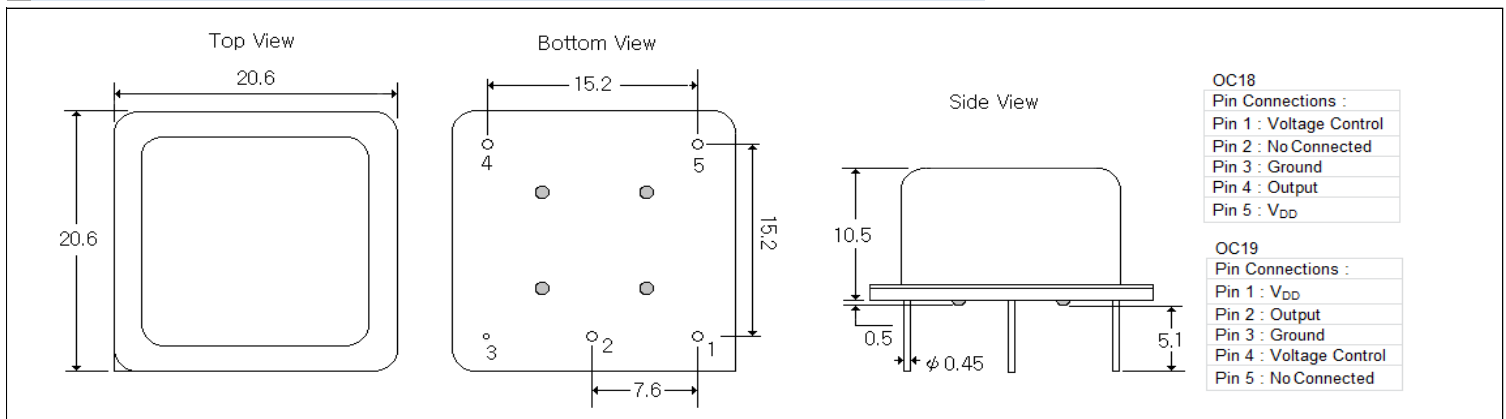
- OC18 / OC19 _ (20.6 * 20.6 * 11.0 mm) typical
- Full Size 5 pin dip full metal package
- +3.3V , +5.0V Supply Voltages
- Voltage control (Electronic Frequency Tuning) is standard



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

Output Waveform		Square wave . Waveform code is " T "			
Supply Voltage		+3.3 V		+5.0 V	
Supply Voltage range , " Voltage code "		+3.3V ± 5% , " 3 "		+5.0V ± 5% , " 5 "	
Frequency Range		5 ~ 40.0 MHz Standard Frequency : 10.0 MHz		5 ~ 40.0 MHz Standard Frequency : 10.0 MHz	
Initial Calibration Tolerance		± 500 ppb (max.) Vcon = +1.65 V		± 500 ppb (max.) Vcon = +2.5 V	
Type of Crystal Cut Used		" SC - cut " crystal or " IT - cut " crystal			
Frequency Stability	vs Temperature (refer to +25°C)	± 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	± 0.5ppb (max.) , for a ± 5% input voltage change .			
	vs Warm-up time (+25°C)	3 minute max. Within ± 50 ppb of its reference frequency.			
	vs Aging	± 0.5 ppb max./after 30 days ; ± 50 ppb max./first year ; ± 300 ppb max. over 10 years.			
Voltage Control On pin 1 (EFC)	Freq. Deviation Range	± 0.5 ppm min. , ± 2 ppm max. Reference to fo at +25°C and over operating temperature range.			
	Control Voltage Range	+1.65V ± 1.65V		+2.5V ± 2.5V	
(Electronic Freq. Tuning)	Transfer Function	Positive : Increasing control voltage increases output frequency .			
	EFC Linearity	± 10 % (max.)			
Power	Power Dissipation (at +25°C)	1.3 Watts max. at steady-state; 800 mA max. at turn-on.			
Output	Output Logic High (V _{OH})	+2.4 V (min.)		+3.5 V (min.)	
	Output Logic Low (V _{OL})	+ 0.5 V (max.)		+ 0.5 V (max.)	
	Duty Cycle (V _{DD})	50 % ± 5% @ 2.0V			
	Load	15pF			
	Rise and Fall Time	7 nS (max.) (20% → 80% of waveform)			
	Phase Noise Offset [20.0 MHz] (10 Hz	100 Hz	1 KHz	10 KHz
	-115 dBc	-135 dBc	-145 dBc	-150 dBc	

Outline Dimensions (Unit : ±0.2 mm)



Mercury www.mercury-crystal.com ■ Taiwan : Tel: (886)-2-2406-2779 / sales-tw@mercury-crystal.com

■ USA : Tel: (1)-909-466-0427 / sales-us@mercury-crystal.com ■ China : Tel: (86)-512-5763-8100 / sales-cn@mercury-crystal.com

" 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]	-	[4]	-	[5]	/	[6]	
	Holder Type	Output Wave	Supply Voltage		Center Frequency		Frequency Stability		Operating Temp. Range	
Examples	(1)	OC12	E	3	-	10.000	-	200	/	0+70
	(2)	OC18	E	12	-	100.000	-	100	/	-30+70
	(3)	OC51	S	3	-	10.000	-	30	/	-20+70
	(4)	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]

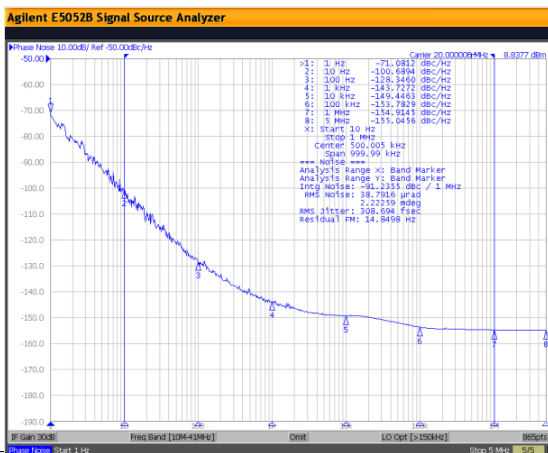
Ex (2) : OC18E12 - 100.000 - 100 / -30+70 [OC18 type , True Sine wave , 12V , 100.000MHz , ± 100ppb from -30°C to 70°C]

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]

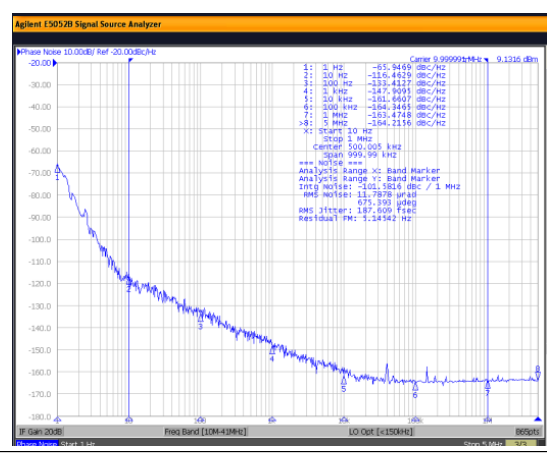
Ex (4) : OC14T5 - 5.000 - 10 / -40+85 [OC14 type , Square Wave , 5.0V , 5.000MHz , ± 10 ppb from -40°C to 85°C]

[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

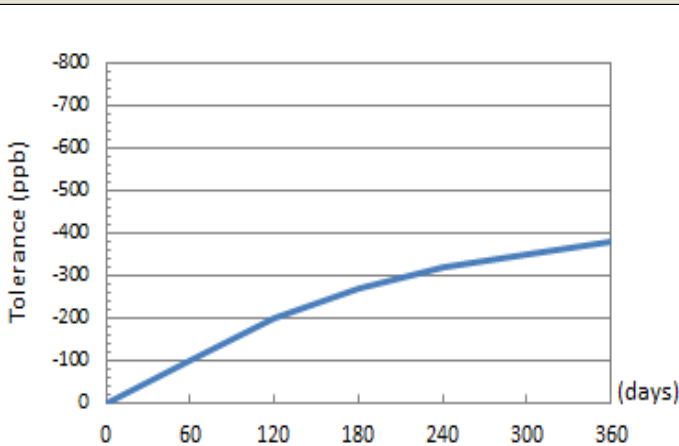
SSB Phase Noise : Clipped Sine Wave(OC51S-20.000)



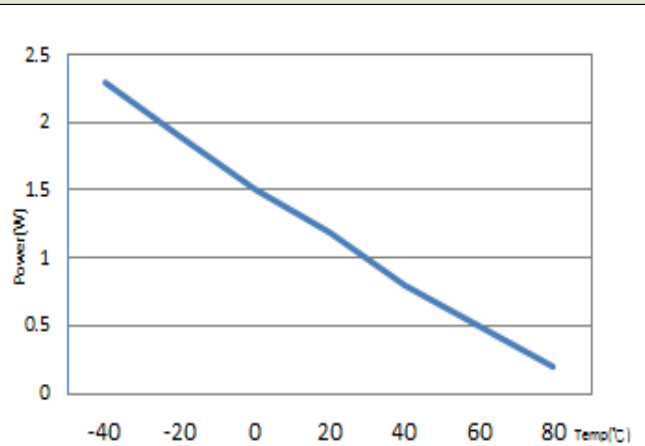
SSB Phase Noise : Square wave(OC13T-10.000)



Aging : OC51S-20.000



Power Consumption vs Temperature (OC13T5-10.000)



Mercury www.mercury-crystal.com ■ Taiwan : Tel: (886)-2-2406-2779 / sales-tw@mercury-crystal.com

■ USA : Tel: (1)-909-466-0427 / sales-us@mercury-crystal.com

■ China : Tel: (86)-512-5763-8100 / sales-cn@mercury-crystal.com