

" 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

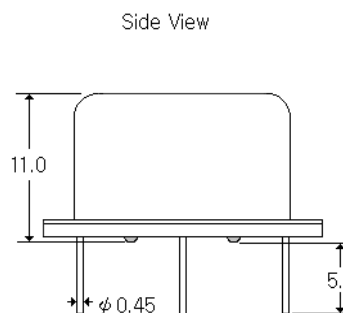
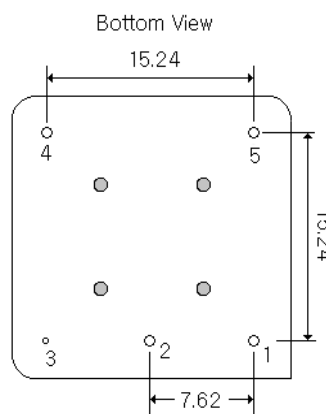
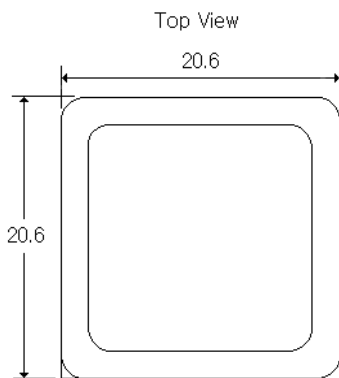
- OC18 / OC19 _ (20.6 * 20.6 * 11.0 mm) typical
- Full Size 5 pin dip full metal package
- +3.3V , +5.0V Supply Voltages
- Voltage control (Electronic Frequency Tuning) is standard



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.)		± 500 ppb (max.)	
		Vcon = +1.65 V		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	
	Transfer Function	Positive : Increasing control voltage increases output frequency .			
(Electronic Freq. Tuning)	Input Impedance	100 K ohms min.			
	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] (typical)	10 Hz	100 Hz	1 KHz	10 KHz
		-115 dBc	-135 dBc	-145 dBc	-150 dBc

Outline Dimensions (Unit : ±0.2 mm)



OC18

Pin Connections :

Pin 1 : Voltage Control

Pin 2 : No Connected

Pin 3 : Ground

Pin 4 : Output

Pin 5 : V_{DD}

OC19

Pin Connections :

Pin 1 : V_{DD}

Pin 2 : Output

Pin 3 : Ground

Pin 4 : Voltage Control

Pin 5 : No Connected

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Square Wave " OC _ T "

Clipped Sine Wave " OC _ S "

True Sine Wave " OC _ E "

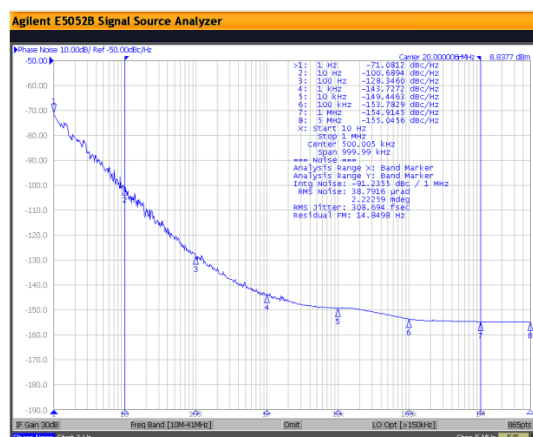
Part Number Format and Example

	[1]	[2]	[3]	-	[4]	-	[5]	/	[6]
	Holder Type	Output Wave	Supply Voltage		Center Frequency		Frequency Stability		Operating Temp. Range
Examples	(1)	OC14	T	5	5.000	10	-40+85		
	(2)	OC18	E	5	100.000	100	-30+70		
	(3)	OC51	S	3	10.000	30	-20+70		
	(4)	OC12	E	3	10.000	200	0+70		

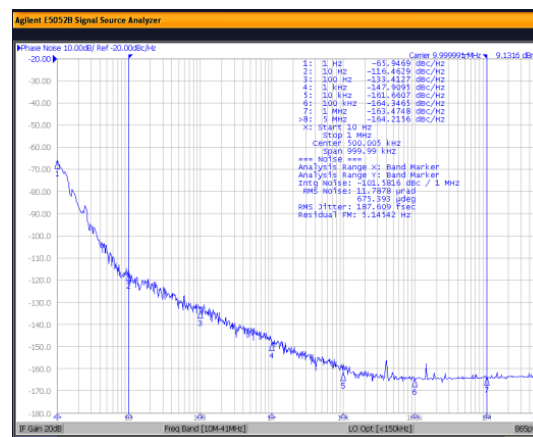
Ex (1) : OC14T5 - 5.000 - 10 / -40+85 [OC14 type , Square Wave , 5.0V , 5.000MHz , ± 10 ppb from -40°C to 85°C]
 Ex (2) : OC18E5 - 100.000 - 100 / -30+70 [OC18 type , True Sine Wave , 5.0V , 100.000MHz , ± 100 ppb from -30°C to 70°C]
 Ex (3) : OC51S3 - 10.000 - 30 / -20+70 [OC51 type , Clipped Sine Wave , 3.3V , 10.000MHz , ± 30 ppb from -20°C to 70°C]
 Ex (4) : OC12E3 - 10.000 - 200 / 0+70 [OC12 type , True Sine Wave , 3.3V , 10.000MHz , ± 200 ppb from 0°C to 70°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 ; ex 2 : OC18E , OC18 package , True Sine Wave ; ex 3 : OC51S , OC51 package , Clipped Sine Wave ; ex 4 : OC12E , OC12 package , True Sine Wave
[3]	Supply voltage , " 5 " for 5.0V D.C , " 3 " for 3.3V D.C
[4]	Center Frequency in MHz
[5]	Frequency stability in $\pm$ _ ppb ; ex 1 : ± 10 ppb ---10 , ex 2 : ± 100 ppb ---100 , ex 3 : ± 30 ppb ---30 , ex 4 : ± 200 ppb ---200
[6]	Operating temperature range in °C
	ex 1 : -40 °C to 85°C ----- -40+85 ; ex 2 : -30 °C to 70°C ----- -30+70 ; ex 3 : -20 °C to 70°C ----- -20+70 ; ex 4 : 0 °C to 70°C ----- 0+70

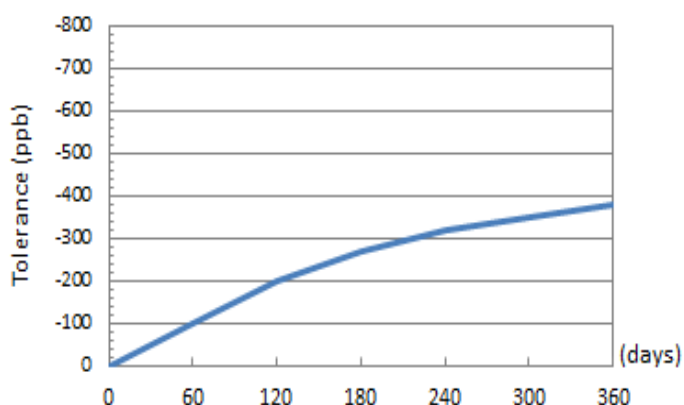
SSB Phase Noise : Clipped Sine Wave(OC51S-20.000)



SSB Phase Noise : Square Wave(OC13T-10.000)



Aging : OC51S-20.000



Power Consumption vs Temperature (OC13T5-10.000)

