



### Features and Benefits

- Less than ± 0.5 ppb per day aging
- Less than ± 50 ppb per year aging
- Industry Standard Package
- Less than 0.05 ppb/s Root-Allan variance

### Description

OCXO3627S series oscillators are designed for applications where space is at a premium and good frequency stability is required. The oscillators can be used in many communications applications. A choice of quartz resonators offers a variety of performance versus cost options to fit most applications.

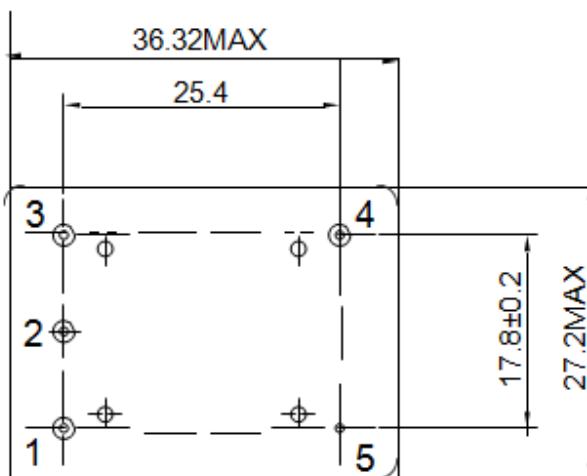
### Typical Applications

- Cellular Base Stations
- Instrumentation
- Microwave Application

### Mechanical Drawing & Pin Connections

Drawing No: MD15083-2

Bottom View

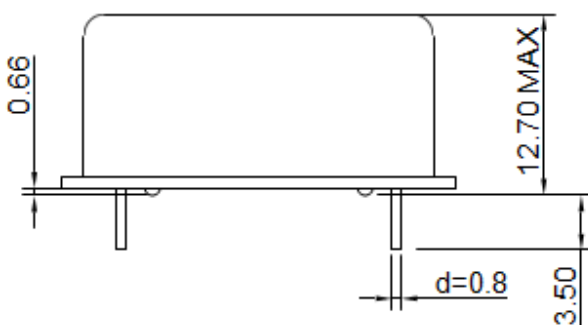


Pin Connections:

Pin	Symbol	Function
1	$V_C$	Control Voltage(EFC)
2	$V_{REF}$	Reference Voltage
3	$V_S$	Supply Voltage
4	RF OUT	RF Output
5	GND	Ground

Unit : mm  
1mm=0.039 inch

Side View





**Specifications**

OCXO Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Frequency Range	F <sub>0</sub>			10.000000		MHz	
<b>RF Output</b>							
Output Waveform			Rectangular				
Level				LVTTL			
Output Level "1"			+2.6			V	
Output Level "0"					+0.4	V	
Load			13.5	15	16.5	pF	
Duty Cycle		@+1.65V	45	50	55	%	
Rise/Fall Time		10% to 90%			6	ns	
Spurious					-60	dBc	
<b>Power Supply</b>							
Voltage	Vcc		11.4	12.0	12.6	V	
Current		Warm-up			400	mA	
		Steady State			1.3	W	@+25°C
<b>Reference Voltage</b>							
Reference Voltage		Over temperature range in 2.1V	4.75	5	5.25	V	
Load			9			Kohm	
<b>Frequency Control*</b>							
Tuning Range		VCO @0			-0.5	ppm	Ref. to frequency at nominal center voltage
		VCO @5V	+0.5			ppm	
Control Voltage	Vc		0	2.5	5.0	V	See Note1
Slope				Positive			
Linearity					+/-10	%	
Input Impedance			100			Kohm	
<b>Frequency Stability</b>							
Initial Tolerance @+25°C(+/-1°C)		1. After turn on power 15+/-1 minutes 2. <=90 days following date code 3. VCO input at 2.5+/-0.001V.			+/-0.1	ppm	
Vs. Operating Temperature Range		-30°C to +70°C -40°C to +85°C Refer to +25°C		+/-3 +/-5 +/-10		ppb	Refer to Table 1
Vs. Supply Voltage Change		+/-5% change			+/-0.5	ppb	
Vs. Load Change		+/-5% change			+/-0.5	ppb	
Warm-up		In 10 minutes @+25+/-1°C			+/-10	ppb	Ref. to 1hour
Short Term		Root allan variance			0.05	ppb/s	
Aging	Per Day	After 30 Days			+/-0.5	ppb	
	Per Year				+/-50	ppb	
	10 Years				+/-0.3	ppm	
<b>Phase Noise</b>							
Phase Noise		@1Hz		-95	-90	dBc/Hz	
		@10Hz		-125	-120	dBc/Hz	
		@100Hz		-140	-135	dBc/Hz	
		@1KHz		-148	-145	dBc/Hz	
		@10KHz		-156	-155	dBc/Hz	
		@100KHz		-158	-155	dBc/Hz	
<b>Environmental</b>							
Operating Temperature Range		-40°C to +85°C (See Note2)					
Storage Temperature		-55°C to +105°C					
Humidity		MIL-STD-202, Method 103 Test Condition A 95% RH @ +40°C, non-condensing, 240 hours					
Vibration (non-operating)		MIL-STD-202, Method 201 0.06" Total p-p, 10 to 55Hz					
Shock (non-operating)		MIL-STD-202, Method 213 Test Condition J 30g, 11ms, half -sine					

**Note 1. When not connected, VCO INPUT is internally held at 2.5V.**

**Note 2. Output maintained over this temperature range. Other requirements of this specification may not be met when operating outside the temperature range in 2.1.**



**Table 1:**

<b>Temperature Range vs. Stability Availability</b>					
<b>Temperature range (°C)</b>	<b>±3ppb</b>	<b>±5ppb</b>	<b>±10ppb</b>	<b>Control Voltage</b>	<b>Reference Voltage</b>
<b>-30 to +70</b>	Available	Available	Available	2.5V	N/A
<b>-40 to +85</b>	Available	Available	Available	2.5V	N/A