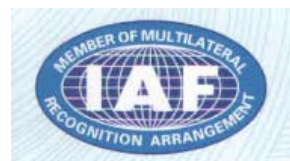


深圳市维拓精电科技有限公司
WTL International Limited

APPROVAL SHEET

DESCRIPTION :	36.3*27.2/6 OCXO			
NOMINAL FREQ.:	10.000MHz			
WTL P/N:	WTL36A11157			
REVISION:	0			
DATE:	2018.07.25			
Customer	Customer P/N			
格星微电子科技有限公司	/			
Customer Signature	WTL			
	Approved by: <i>Xo Xo Lee</i>			
	Checked by: <i>Susan He</i>			
	Issued by: <i>Shengbia</i>			
REVISION HISTORY				
Revised Page	Revision Content	Date	Ref. No.	Reviser



Oven Controlled Crystal Oscillator

OSH Series in 36.3x27.2mm DIP package

OSH series oscillators is 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.



ELECTRICAL SPECIFICATIONS

1. OUTPUT (PIN = "R.F. OUTPUT")

	Parameter	Min.	Typ.	Max.	Unit	Test Condition
1.1.	Frequency	10.000000			MHz	
1.2.	Initial Accuracy	-0.1		+0.1	ppm	@ +25 ±1°C after turn on power 15 ±1 minutes δ 90 days following date code VCO Input at Center Voltage ±0.001V
1.3.	Waveform	Rectangular				
1.4.	Level	LVTTTL				
	"1" level	+2.6	+3.3		V	
	"0" level			+0.4	V	
1.5.	Load		1		p	
1.6.	Duty cycle	45	5 0	5 5	%	@ +1.65V
1.7.	Rise/fall time			6	ns	10% to 90%
1.8.	Spurious			-	dBc	

2 FREQUENCY STABILITY

	Parameter	Min.	Typ.	Max.	Unit	Test Condition
2.3.	Ambient	+/-3			ppb	referenced to 25°C
		-30 ~ +70 -40 ~ +85			°C	Refer to Table 1 : Ordering Information
2.2.	Aging	-0.5		+0.5	ppb	per day, at time of shipment
	Daily	-0.5		+0.5	ppb	after 30 days
	Yearly	-50		+50	ppb	
	10 Years	-0.3		+0.3	ppm	
1.1.	Voltage	-0.5		+0.5	ppb	±5% change
1.2.	Short term			0.05	ppb/s	root Allan variance
1.3.	Load	-0.5		+0.5	ppb	±5% change
1.4.	Warm-up	-10		+10	ppb	in 10 minutes @ +25 ±1°C referenced to 1 hour

	Parameter	Min.	Typ.	Max.	Unit	Test Condition
2.7.	Phase Noise		-95	-90	dBc/Hz	@ 1Hz
			-125	-120	dBc/Hz	@ 10Hz
			-140	-135	dBc/Hz	@ 100Hz
			-148	-145	dBc/Hz	@ 1KHz
			-156	-155	dBc/Hz	@ 10KHz
			-158	-155	dBc/Hz	@ 100KHz

3 ELECTRICAL FREQUENCY ADJUSTMENT (PIN = "VCO INPUT")

	Parameter	Min.	Typ.	Max.	Unit	Test Condition	
				-0.5	ppm	VCO @ Min. Voltage	Referenced to frequency at nominal Center Voltage
					ppm	VCO @ Max. Voltage	
3.2	Control Voltage	0		+5.0	V	Optional, Refer to Table 1 : Ordering Information	
		0		+4.0	V		
3.3	Slope	Positi				Optional, Refer to Table 1 : Ordering Information	
3.4	Center Voltage		+2.5		V		
			+2.0		V	Optional, Refer to Table 1 : Ordering Information	
3.5	Linearity	-10		+10	%		
3.6	Input Impedance	100			kΩ		

4 INPUT POWER (PIN = "+VDC")

	Parameter	Min.	Typ.	Max.	Unit	Test
4.1.	Voltage	+4.75	+5.0	+5.25	V	
4.2.	Current			8	m	@ turn on
4.3.	Steady State			1	W	@ +25°C

5 REFERENCE VOLTAGE (PIN = "REFERENCE VOLTAGE")

(Optional Function. Refer to Table 1 : Ordering Information.)

	Parameter	Min.	Typ.	Max.	Units	Test
5.1.	Voltage	+3.8	+4	+4.2	V	Over temperature range in 2.1.
5.2.	Load	9			kΩ	

6 ENVIRONMENTAL

	Parameter	Reference Std.	Test Condition
6.1.	Operating Temperature	-40°C to +85°C	Note 2
6.2.	Storage Temperature	-55°C to +105°C	
6.3.	Humidity	MIL-STD-202, Method 103 Test Condition A	95% RH @ +40°C, non-condensing, 240 hours
6.4.	Vibration (non-operating)	MIL-STD-202, Method 201	0.06" Total p-p, 10 to 55 Hz
6.5.	Shock (non-operating)	MIL-STD-202, Method 213, Test Condition J	30g, 11ms, half-sine

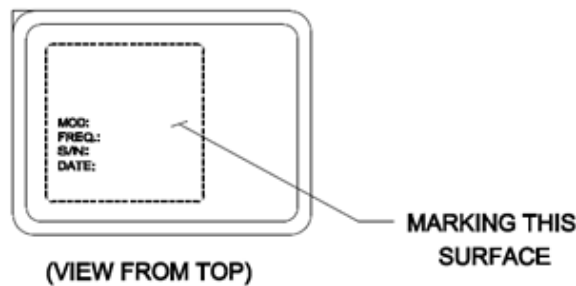
Note 1. When not connected, VCO INPUT is internally held at this voltage.

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.

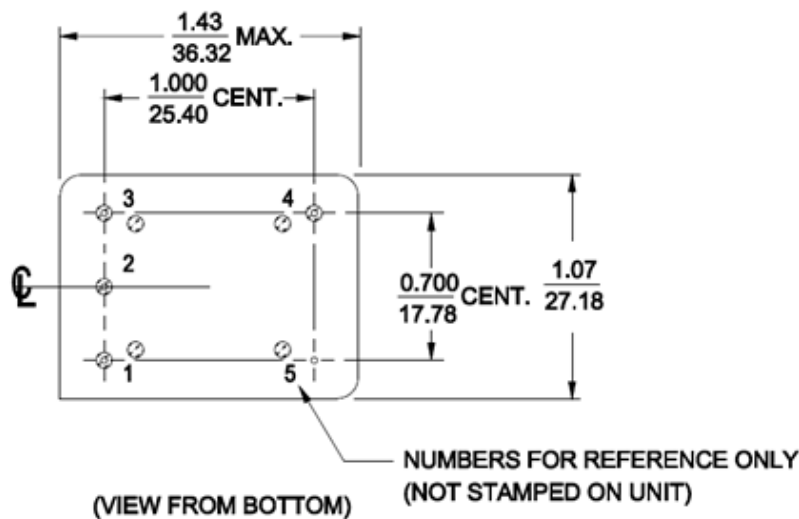
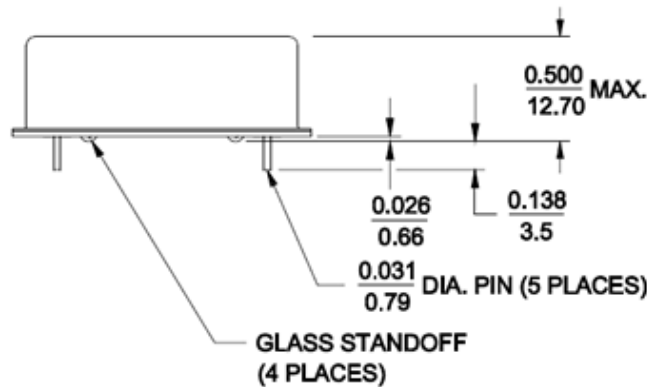
Table 1 : ORDERING INFORMATION

Temp. (°C)	WTL P/N	ppb	±3	±5	±10	Control Voltage	Reference Voltage
-30~+70		WTL36A11157				+2.5V	N/A
-40~+85							
-30~+70						+2.0V	+4.0V
-40~+85							

OUTLINE DRAWING



PIN CONNECTIONS	
PIN	FUNCTION
1	VCO INPUT
2 (See Note 1)	REFERENCE VOLTAGE or NOT CONNECTED
3	+VDC
4	R. F. OUTPUT
5	0 VOLTS & CASE



TOLERANCES:
UNLESS OTHERWISE SPECIFIED:
ANGLES: ±1 DEGREE
FRACTIONS: ±1/32 INCH
DECIMALS: .XX±.015, .XXX±.010 INCH
INCH
mm (REFERENCE ONLY)