



### Features and Benefits

Frequency range: 20MHz  
Supply voltage: 3.3V  
Steady current: 550mĖ  
Output waveform: HCMOS  
Frequency stability vs. operating temperature:  $\pm 0.05$ ppb  
Aging:  $\pm 0.05$ ppm/year  
Phase noise@100KHz: -160dBc/Hz  
Operating temperature: 0°C to +50°C  
Size: 35.4x26.7x15.8mm

### Typical Applications

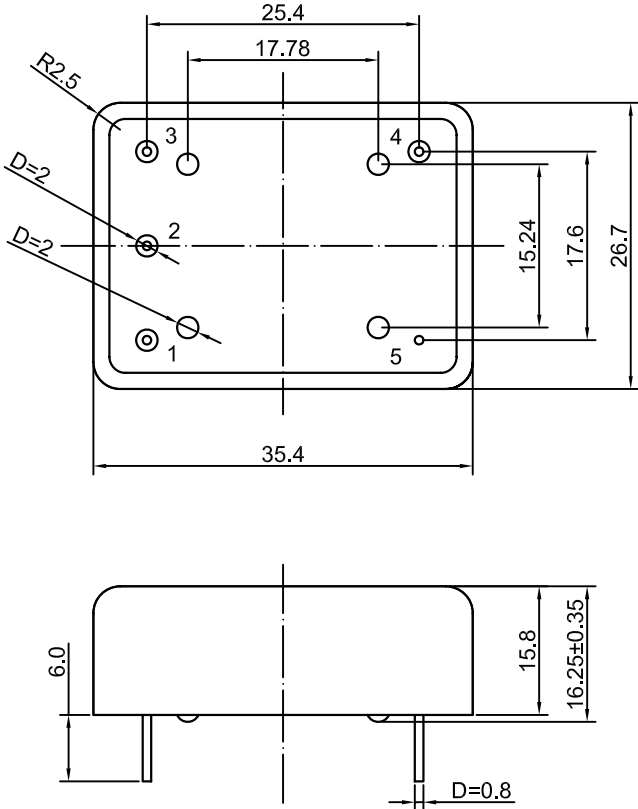
Rubidium Standard Replacement  
GPS Receivers  
Instrumentation  
Stratum 2 Clock Systems

### Description

The DOCXO3627AW-20MHz-A-V operate in 20 MHz frequency, the module concept of the OCXOs design allowed realization of same performance in a variety of small packages on customer choice under various models.

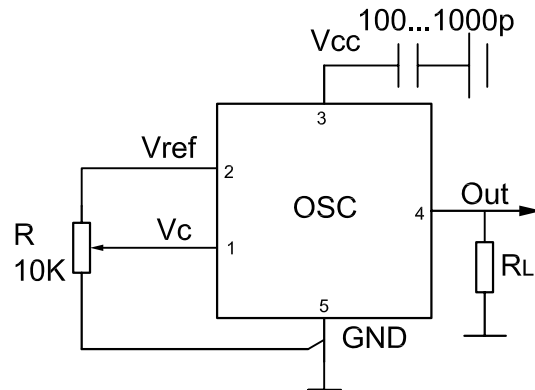
### Mechanical Drawing & Pin Connections

Drawing No: MD140079-2



Pin	Signal
1	Electrical tuning
2	Reference voltage
3	+V Supply
4	RF OUT
5	GND

Unit in mm  
1mm = 0.0394 inches





**Specifications**

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Frequency	f0			20		MHz	
<b>RF Output</b>							
Signal Waveform			HCMOS				
Level High			2.4			V	
Level Low					0.4	V	
Load	RL		10			kohm	
Load	CL				10	pF	
Duty Cycle			45	50	55	%	
Rise & Fall time		10, 90 %			8	nS	
<b>Power Supply</b>							
Supply Voltage	V <sub>cc</sub>		3.15	3.3	3.45	V	
Warm-up Time		$\Delta f/f = 1e-8$ , at +25°C			300	sec	ref. to freq. after 30 min. of operation
Power Consumption		Steady state, +25°C			550	mA	
		Warm-up	1300		1700	mA	
<b>Frequency Adjustment Range</b>							
Frequency turning range	(fL-f)/f	Vc=0 V			-0.4	ppm	
	(f-f)/f	Vc=Vc0		0		ppm	
	(fH-f)/f	Vc=Vref	+0.4			ppm	
EFC voltage	V <sub>c</sub>		0		2.9	V	
Input impedance				11		kohm	
Preset control voltage	Vc0	disconnected Vc pin	1.2	1.4	1.6	V	
Reference voltage	Vref		2.7	2.8	2.9	V	
Output resistance of Vref				91		ohm	
<b>Frequency Stability</b>							
Versus Operating Temperature Range		ref. 25°C			±0.05	ppb	
Initial Tolerance	(f-f0)/f0	+25°C, Vc=Vc0	-0.1		+0.1	ppm	
Versus supply voltage		ref V <sub>cc</sub> typ			±0.05	ppb	
Versus load		5% change			±0.05	ppb	
Aging Per Day		after 30 days of operation			±0.5	ppb	
Aging 1 <sup>st</sup> Year					±0.05	ppm	
SSB phase noise		1Hz		-90		dBc/Hz	
		10Hz		-120		dBc/Hz	
		100Hz		-145		dBc/Hz	
		1kHz		-150		dBc/Hz	
		10kHz		-155		dBc/Hz	
		100kHz		-160		dBc/Hz	
<b>Maximum ratings, Environmental, Mechanical Conditions</b>							
Airflow velocity	0.5 m/s maximum						
Operating temperature range	0°C to +50°C						
Storage temperature range	-60°C to +90°C						
Mechanical shock	Per MIL-STD-202, 30G, 11ms						
Soldering conditions	Hand solder only – not reflow compatible 260°C 10s (on pins)						
Humidity	Hermetically sealed						
Power Voltage	-0.5V to 4V						
Control Voltage	-1.0V to 4V						
Vibration	Per MIL-STD-202, 5G to 500Hz						
Washing Conditions	Washing with water or alcohol based detergent allowed only with final enough drying stage						