

Features and Benefits

Ultra high stability – to $\pm 1 \times 10^{-10}$ over (-30 to +70) °C
 Very low aging – to $\pm 1 \times 10^{-10}$ /day, 1.5×10^{-8} /year
 Low phase-noise level (-165dBc/Hz, TYP, floor)
 Excellent Allan variance, 1s to 1×10^{-12}
 Small size packaging

Description

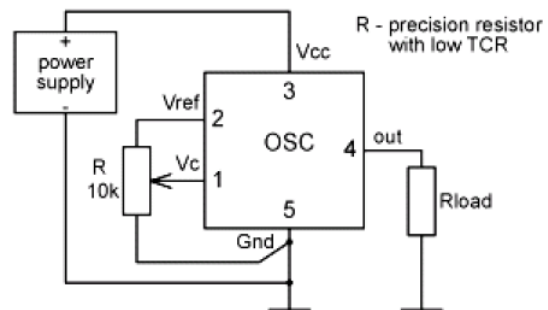
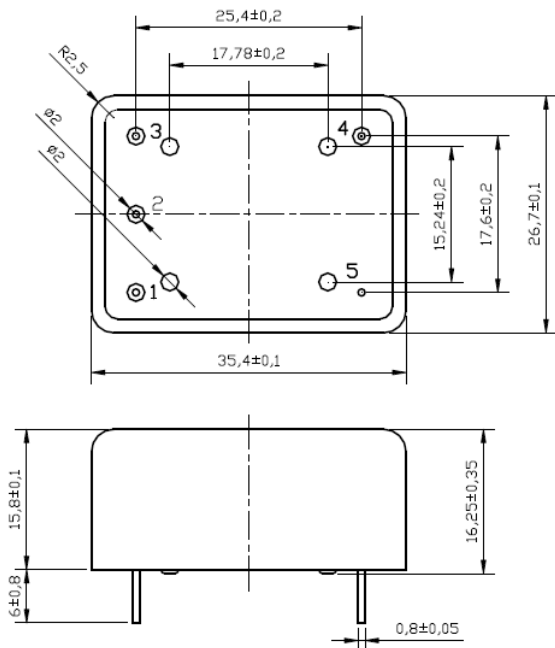
The OCXO3628C series use the double-oven structure providing perfect temperature stabilization of the high precision crystal resonator and the oscillator circuitry. The OCXO3628C series is excellent to use in Stratum 2 clock system, instrumentations, local reference as Rb-standard replacement and in other high-end applications. The oscillators are available in 8-100MHz operational frequency range.

Typical Applications

- Rubidium Standard Replacement
- GPS Receivers
- Instrumentation
- Stratum 2 Clock Systems

Mechanical Drawing & Pin Connections

Drawing No: MD140080-1



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

OCXO3628C

Ultra-Stable Double-Oven OCXO

Specifications

OCXO Specification		Sym	Condition	Value			Unit	Note
				Min.	Typ.	Max.		
Frequency Range		F ₀		5		100	MHz	
RF Output								
HCOMS (TTL) Option	Load			10		15	kOhm	
	H-level Voltage	V _H		3.8			V	
	L-level Voltage	V _L				0.4	V	
	Duty Cycle			45		55	%	
	Rise/Fall Time					10	ns	For 10MHz operational frequency
Sine Wave Option	Level	L		+6	+8	+10	dBm	
	Load	R _L			50		Ohm	
	Harmonics Level					-30	dBc	
Sub-harmonics Level		Operational frequency < 30MHz		None				
		Operational frequency ≥ 30MHz				-40	dBc	Frequency multiplier is used
Power Supply								
Voltage		V _{cc}		4.75	5.0	5.25	V	3.3V, 12V supply available
Power Consumption		Warm-up state				5	W	
		Steady state, +25°C			1.25	1.5	W	
Warm-up Time		t _{up}	To Δf/f ₀ = 1e-8 at 25°C			5	min	ref. to frequency after 30 min
Frequency Control								
Control Voltage Range		V _c	@ V _{cc} = 5V or 12V	0		4.2	V	Tuning slope - positive
			@ V _{cc} = 3.3V	0		2.8	V	
Tuning Range				+/-0.35	+/-0.4		ppm	
Reference Voltage		V _{ref}	@ V _{cc} = 5V or 12V	4.1	4.2	4.3	V	
			@ V _{cc} = 3.3V	2.7	2.8	2.9	V	
Frequency Stability								
vs. Temperature			-30°C to +70°C, ref. 25°C			+/-0.1	ppb	For more information, please consult sale
vs. Supply Voltage			Ref. V _{cc} typ.			+/-0.02	ppb	
Aging	Per Day		After 30 days of operation	+/-0.1			ppb	For more information, please consult sale
	First Year			+/-15			ppb	
	For 10 Years			+/-0.3			ppm	
Phase Noise								
SSB Phase Noise				1Hz		-100	dBc/Hz	For 10MHz operational frequency
				10Hz		-130		
				100Hz		-147		
				1kHz		-155		
				10kHz		-165		
Allan Variance			1s	1			e-12	
Environmental								
Operating Temperature Range		For more information, please consult sale						
Storage Temperature Range		-60°C to +90°C						
Humidity		Hermetically sealed						
Mechanical Shock		Per MIL-STD-202, 30G half sine pulse, 11ms						
Vibration		Per MIL-STD-202, 5G swept sine 10 to 500Hz						
Soldering Conditions		Hand solder only – not reflow compatible, 260°C 10s (on pins)						