



Features and Benefits

Frequency range: 10MHz
Supply voltage: 5.0V
Steady Power: 2.5W Max
Output waveform: CMOS
Frequency stability vs. operating temperature: ±0.5ppb
Aging: ±40ppb per year
Phase noise@100KHz: -160dBc/Hz
Operating temperature: -10°C to +70°C
Size: 36x27x18mm

Typical Applications

Instrument
Data communication
Test and Measurement
GPS
Telecom

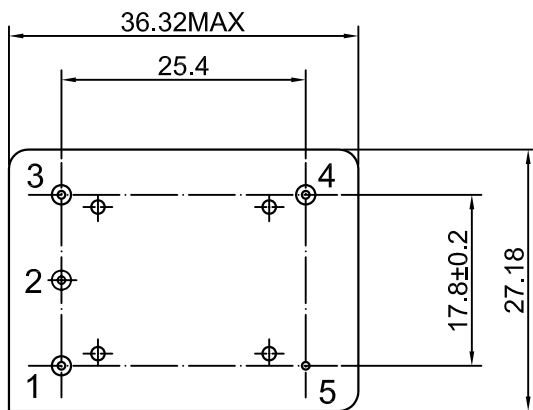
Description

DOCXO3628BM-10MHz-312 is designed for applications where exceptional frequency stability and timing is required. It has both excellent temperature performance and short-term stability. These characteristics make it an excellent choice for timing applications.

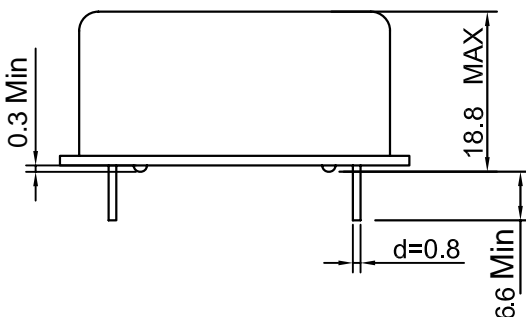
Mechanical Drawing & Pin Connections

Drawing No: MD2(00((-1

Bottom View



Side View



Pin Connections:

Pin	Symbol	Function
* 1	Vc	Control Voltage(EFC) or N.C.
*2	VREF	Reference Voltage or Oven Monitor or N.C.
3	Vcc	Supply Voltage
4	RF OUT	RF Output
5	GND	Ground

* If the specification does not specify parameters for either PIN1 or PIN2 then that respective PIN is NOT internally connected.

Unit in mm
1mm = 0.0394 inches



Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	F _{nom}			10		MHz	
RF Output							
Signal Waveform			CMOS				
Load	R _L			15		pF	
H-Level Voltage	V _H		2.4			V	
L- Level Voltage	V _L				0.3	V	
Duty Cycle		@+2.5V	45	50	55	%	
Spurious					-60	dBc	
Power Supply							
Reference Voltage			2.716	2.8	2.884	V	
Reference Voltage Load			9			kohm	
Reference Voltage Temp Stability			-0.5		+0.5	mV	
Supply Voltage	V _{cc}		4.75	5.0	5.25	V	
Power Consumption		Steady state @+25°C			2.5	W	power
		Warm-up@ turn on			1.75	A	current
Frequency Adjustment Range							
Electronic Frequency Control (EFC)		V _{co} @Min Voltage	-0.25		-0.15	ppm	Ref to freq. at nominal center voltage
		V _{co} @Max Voltage	+0.15		+0.25	ppm	
EFC voltage	V _{co}		0		2.8	V	
Center Voltage		When not connected, V _{co} input is internally held at this voltage		1.4		V	
Linearity			-10		+10	%	
Input Impedance			50			kohm	
EFC Slope			positive				
Frequency Stability							
Versus Operating Temperature Range		-10°C to +70°C			±0.5	ppb	
Initial Tolerance		≤ 90 days following date code; V _{co} Input at Center Voltage ±0.001V	-0.1		+0.1	ppm	@+25±1°C after turn on power 30±5 min
Retrace		After 60 minutes from turn on, following 24 hours minimum on time, and 24 hours maximum off time	-5		+5	ppb	At constant temperature and voltage. Referenced to frequency at off time
Aging Per Day		After 30days			±0.2	ppb	
Aging 1 st Year					±40	ppb	
Aging 10 st Year					±200	ppb	
Root Allan Variance		10s			0.01	ppb	
SSB Phase noise		1Hz			-90	dBc	
		10Hz			-120	dBc	
		100Hz			-135	dBc	
		1kHz			-145	dBc	
		10kHz			-155	dBc	
		100kHz			-160	dBc	
Environmental, Mechanical Conditions							
Operating temperature	-10°C to +70°C						
Storage temperature	-40°C to +85°C						
Shock (non-operating)	Per MIL-STD-202, Method 213, test condition J; 30G, half sine, 11ms						
Vibration (non-operating)	Per MIL-STD-202, Method 201; 0.06" total p-p, 10 to 55Hz						