Dynamic Engineers Inc.
2550 Gray Falls Dr., Suite#128, Houston, TX, 77077
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TCXO7500Z-40MHz-A
High reliable, ultra-high precision (STRATUM 3) temperature compensated CSW SMD TCXO

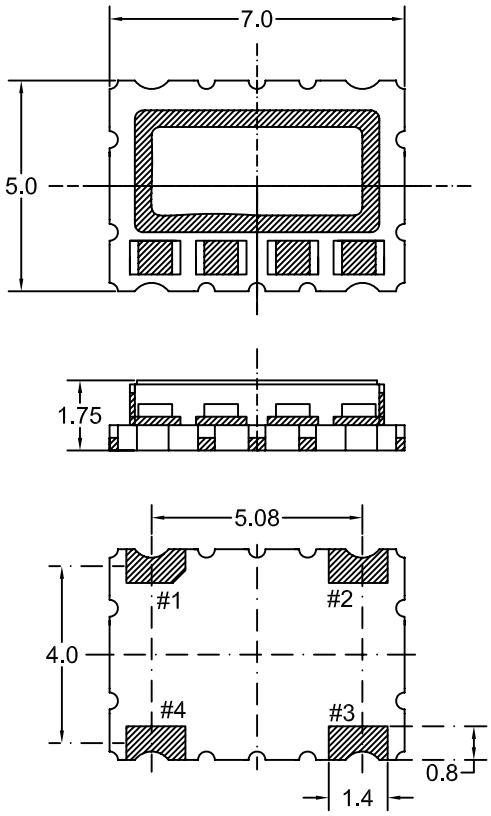
Features and Benefits
High frequency stability(up to ±0.28 ppm over -40°C to +85°C)
≤40 ppb holdover stability over 24 hours (@ constant temperature)
3.3 V supply voltage
<5 mA power consumption

Typical Applications
STRATUM 3 Devices
Mobile Microwave Applications

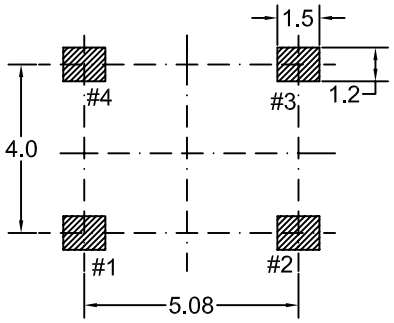
Description
TCXO7500Z-40MHz-A offers high precision (Stratum 3) frequency and holdover stability under wide temperature operation from -40°C to +85°Cwith less than 5 mA power consumption all in one package.

Mechanical Drawing & Pin Connections

Drawing No: **MD150075-6**



Solder pattern



Pin Function

#1 GND or NC
#2 GND
#3 Output
#4 Vcc

Unit in mm
1mm = 0.0394 inches

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Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Nominal Frequency	F_{nom}			40.0000		MHz	
Output Waveform				Clipped Sine Wave			
Output Level				>0.8		Vp-p	
Output Load				10 10		kΩ pF	
Power Supply							
Supply Voltage	V_{cc}	±5%		+3.3		V	
Current Consumption				<5		mA	
Frequency Stability							
Overall Frequency Stability				≤±4.6		ppm	Refer to Note 1
Vs.Temperature Reference(F_{MAX}+F_{MIN}) / 2		Over -40°C to +85°C		≤±0.28		ppm	
Frequency Tolerance ex-factory		@ +25°C	0		1.0	ppm	
Vs Supply Voltage changes Reference to frequency at nominal supply		±5%		≤±0.1		ppm	
Vs Load Changes Reference to frequency at nominal load		±10%		≤±0.1		ppm	
Holdover Stability over 24 hours		@ constant temperature		≤40		ppb	
Frequency Slope vs. Temperature		Over operating temperature		≤50		ppb/°C	
Short Term Stability ADEV		t = 1 s		<1 x 10^{-10}			
Phase noise@ 40 MHz		100 Hz		<-123		dBc/Hz	
		1 kHz		<-145			
		10 kHz		<-155			
		100 kHz		<-157			
Environmental Conditions							
Operating temperature range	-40°C to +85°C						
Storage temperature range	-55°C to +105°C						
Reflow conditions per JEDEC J-STD-020	+260°C maximum during 10 sec. max						
Moisture Sensitivity	Level 1 (unlimited)						

Note 1: Including, frequency stability vs. temperature, tolerance @ +25°C, aging 20 years, supply and load variation

Environmental Conditions

Test	IEC 60068 Part…	IEC 60679-1 Clause	MIL-STD-202G Method	MIL-STD-810F Method	MIL-PRF-55310D Clause	Test conditions (IEC)
Sealing tests (if applicable)	2-17	5.6.2	112E		3.6.1.2	Gross leak: Test Qc Fine leak: Test Qk
Solderability Resistance to soldering heat	2-20 2-58	5.6.3	208H 210F		3.6.52 3.6.48	Test Ta method 1 Test Td_1 method 2 Test Td_2 method 2
Shock	2-27	5.6.8	213B	516.4	3.6.40	Test Ea, 3 x per axis 100 g 6 ms half-sine pulse
Vibration sinusoidal	2-6	5.6.7.1	201A 204D	516.4-4	3.6.38.1 3.6.38.2	Test Fc, 30 min per axis, 1 oct / min 10 Hz – 55 Hz 0, 75 mm; 55 Hz – 2 kHz 10g
Vibration random	2-64	5.6.7.3	214A	514.5	3.6.38.3 3.6.38.4	Test Fdb
Endurance tests - Aging - Extended aging		 5.7.1 5.7.2	108A		4.8.35	 30 days @ +85°C 1000 h, 2000 h, 8000 h @ +85°C

Test Circuit