



Dynamic Engineers Inc.

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H7 LC & @! A <n!m

UHF Temperature Compensated Crystal SMD
Oscillator

Features and Benefits

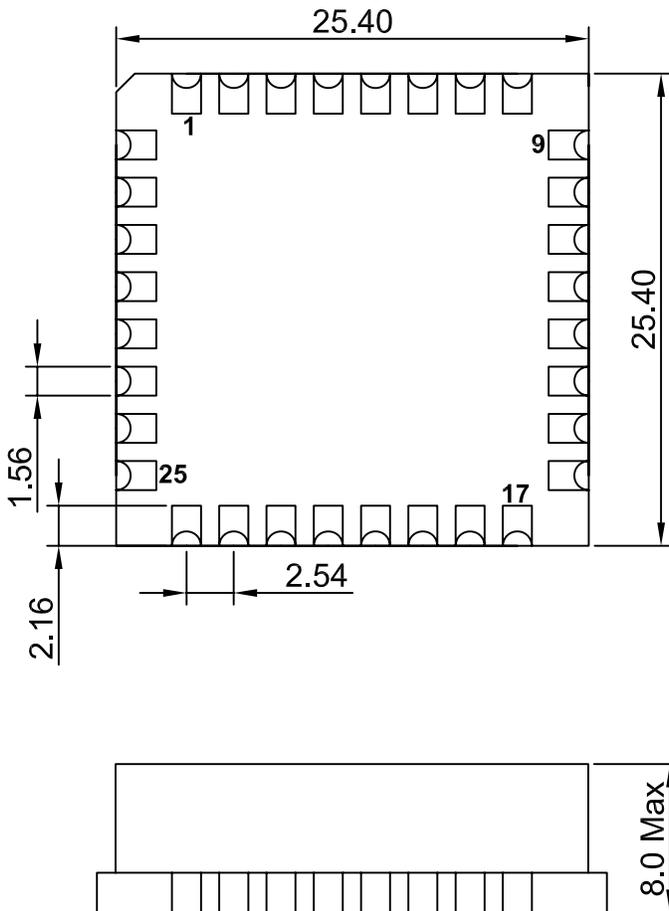
UHF temperature compensated crystal SMD oscillator
Up to ± 0.5 ppm stability over operating temperature
500 to 2500MHz frequency range
Low phase noise up to -150 dBc/Hz @ 1 MHz

Typical Applications

Mobile Radio
Communication Equipment

Mechanical Drawing & Pin Connections

Drawing No:MD160084-1



Pin Connection:

Pin#	Symbol	Function
1	LD	Lock detect
2	Vc	Control voltage(EFC)
19	RF OUT	RF OUT
22	NC	No connection
31,32	Vs	Supply voltage
Others	GND	Ground,case

Unit : mm
1mm=0.039inch



Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Frequency Range	F ₀		500		2500	MHz	
RF Output							
Output Wave Form			Sine wave				
Load	R _L	±5%	50			Ω	
Output Level			+10			dBm	Up to +24 dBm available
Harmonics					-30	dBc	
Spurious					-80	dBc	
PLL Products					-60	dBc	
Phase Noise @ 1000 MHz (Please consult DEI for phase noise of other frequencies)		@ 10 kHz			-110	dBc/Hz	
		@ 100 kHz			-130		
		@ 1 MHz			-150		
Power Supply							
Voltage	V _s		4.75	5.00	5.25	V	
Current Consumption (depends on output frequency)				150	200	mA	
Lock Detect Output LD (Internal PLL with TCXO reference)		Out of lock		0	1.5	V	
		Locked	3.5	5		V	
Frequency Adjustment Range							
Electronic Frequency Control (EFC)			±5			ppm	
EFC Voltage	V _c		0.5	2.5	4.5	V	
EFC Slope (Δf/ΔV _c)			positive				
EFC Input Impedance			100			kΩ	
Frequency Stability							
VS. Tolerance @ +25°C					±1.0	ppm	
VS. over operating temperature range			±0.5		±3.0	ppm	Please refer to Options Tables
VS ±5% change in supply voltage	V _s				±0.2	ppm	Pushing
Long Term Aging per year				±1	±2	ppm	
Environmental Conditions							
Parameter	Reference Std.						
Operating temperature range	-40°C to +85°C or -20°C to +70°C						
Storage temperature	-55°C to +125°C						
Enclosure (L x W x H)	25.4 x 25.4 x 8 max. (mm)						
Weight	10 g						
Packing	Palette						

Note: Terminology and test conditions are according to IEC60679-1 and MIL-PRF-55310, unless otherwise stated

Absolute Maximum Ratings

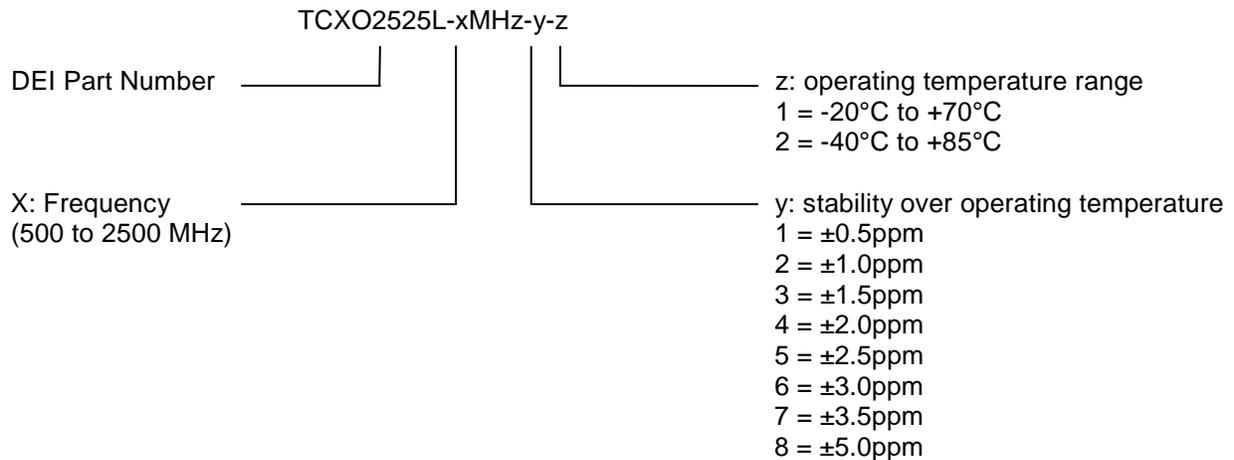
Parameter	Sym.	Condition	Min.	Max.	Unit
Supply Voltage	V _s	V _s to GND	-0.5	V _s + 10%	V
Control Voltage	V _c	V _c to GND	-0.5	+7	V
Storage temperature			-55	+125	°C



Handling and Test

Parameter	Procedure		Condition
Electrostatic Discharge (ESD)			
THD Devices	IEC60749-26	HBM	2000V
SMD Devices	IEC60749-27	MM	200V
Washable	No		
ROHS-Compliant	Yes		

Ordering Code



Example

TCXO2525L-1000MHz-1-1
 Frequency = 1000 MHz
 Stability Over Operating Temperature Range = ±0.5ppm
 Temperature Range = -20°C to +70°C

Pin Connections

Pin #	Symbol	Function
1	LD	Lock Detect
2	V _C	Control Voltage (EFC)
19	RF OUT	RF Output
22	D.N.C	Do Not Connect
31, 32	V _S	Supply Voltage
All others	GND	Ground, case



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, Method 2 Test Td, Method 2
Shock*	2-27	5.6.8	213B	516.4	3.6.40	Test Ea, 2 x per axes 100g 6ms 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 axes
Vibraton 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, OCXO @ 25°C 1000h, 2000h, 8000h @ 85°C

Other environmental conditions information available upon request.