

ECOC-9775 LVCMOS SMD OCXO. The 9.7 x 7.5 x 5.65 mm package is ideal for 5G, Small Cells, SyncE and IEEE 1588 applications.

Request a Sample

**OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS**



- LVCMOS OCXO
- 9.7x7.5 mm Footprint
- PbFree/RoHS Compliant
- Lead Finish Au

ECOC-9775					
Parameters	MIN	TYP	MAX	Units	Conditions
Frequency Range	10.000		40.000	MHz	
Input Voltage	+3.135	+3.3	+3.465	VDC	
Current Consumption @ +25°C			750	mA	During Warm up
			200	mA	At steady state
Warm up Time			3	Min	Note 1:
Initial Frequency Tolerance			±500	ppb	@ +25°C ±2°C Note 2:
Start-up Time			200	msec	
Reflow shift	-1		+1	ppm	Note 3:
Frequency Stability			±20	ppb	Vs. Temp (-40 ~ +85°C) DN Opt
		±10		ppb	Vcc ±2%
		±10		ppb	Vs. Load Change (±5%)
Frequency Slope (In still air)			±2	Ppb/°C	Temp ramp rate 0.5°C/Min.
Output Load		15		pF	LVCMOS
Output Voltage (VOH)	2.97			V	
Output Voltage (VOL)			0.3	V	
Rise/Fall Time			2	nS	
Duty Cycle	45		55	%	
Phase Noise @ 10.000 MHz		-85		dBc/Hz	@ 1 Hz Offset
		-117		dBc/Hz	@ 10 Hz Offset
		-139		dBc/Hz	@ 100 Hz Offset
		-156		dBc/Hz	@ 1 KHz Offset
		-162		dBc/Hz	@ 10 KHz Offset
		-163		dBc/Hz	@ 100 KHz Offset
		-164		dBc/Hz	@ 5 MHz Offset
Allan deviation (at +25°C)		7.0		e-11	τ=1.0s
ECOC-9775-VC					VC-OCXO Option
Control Voltage	+0.0	+1.65	+3.35	V	Input Impedance 100kΩ Min
Pullability	±2			ppm	Positive Slope ≤10% Linearity
Operating Temperature	-40		+85	°C	* N Option
Storage Temperature	-55		+95	°C	

**Note 1:** Time needed for frequency to be within ±50 ppb reference to frequency after 1 hour, at +25°C

**Note 2:** At time of shipment, reference to nominal frequency at +25°C ±2°C

**Note 3:** After 1 hour recovery at +25°C

*Aging
Daily ±2 ppb Typ
1 <sup>st</sup> Year ±0.8 ppm Max.
10 Years ±2 ppm Max.

\*After 30 days of operation

**Part Numbering Guide: Example ECOC-9775-10.000-DN-TR**

Series	Frequency	Stability	Temperature	Packaging
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ECOC-9775 = OCXO  
ECOC-9775-VC = VC-OCXO

10.000 MHz  
See Page 2  
Developed  
Frequencies

D= ±20 ppb  
E= ±50 ppb

M= -20 ~ +70°C  
Y = -30 ~ +85°C  
N = -40 ~ +85°C

TR = Tape & Reel  
(500/Reel)

**Package Dimensions (mm)**

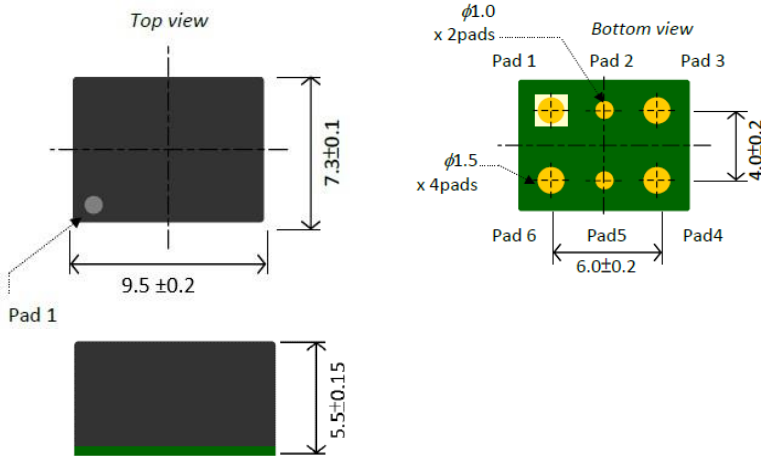


Figure 1) Top, Side, and Bottom views

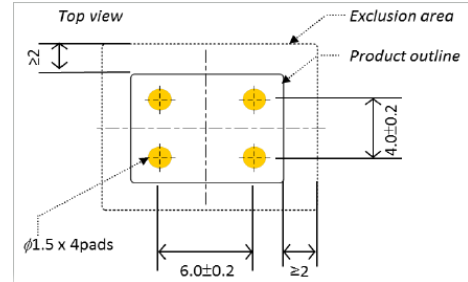


Figure 2) Land Pattern

ECOC-9775	
Pin Connections	
#1	NC
#2	DNC
#3	GND
#4	Output
#5	DNC
#6	Vcc

ECOC-9775-VC	
Pin Connections	
#1	Voltage Control
#2	DNC
#3	GND
#4	Output
#5	DNC
#6	Vcc

Frequency (MHz)
10.000
19.440
20.000
25.000
30.720
38.880
48.000

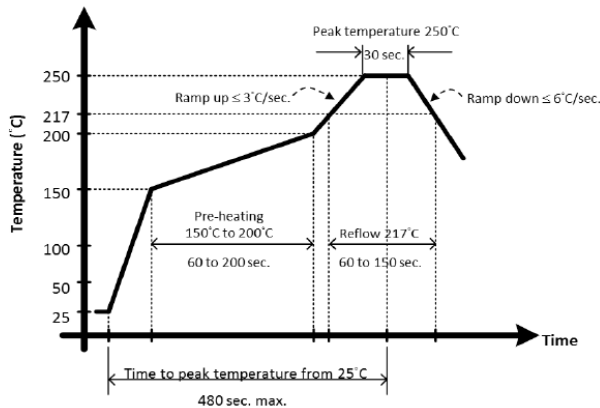


Figure 3) Suggested Reflow Profile

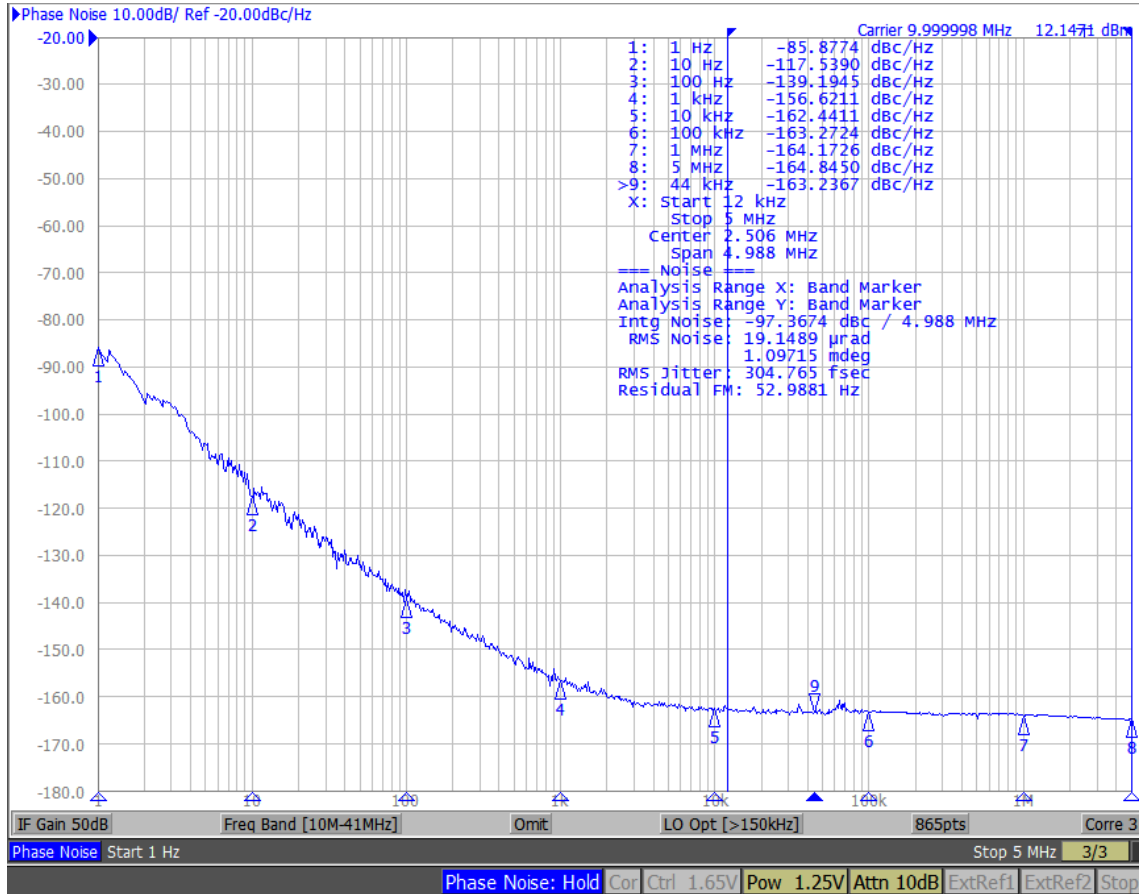


Figure 4) Typical Phase Noise Plot (10 MHz)

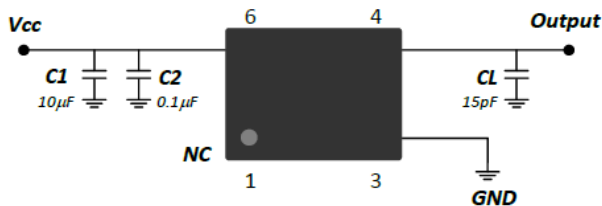


Figure 5) Test Circuit

External components:

Name	Function
C1	AC Noise Bypass for Vcc
C2	AC Noise Bypass for Vcc
CL	Load Capacitance

Note: Bypass capacitor should be placed.

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