EUROQUARTZ

EMQF574T

CMOS SMD TCXO 7.0 x 5.0mm 10MHz to 245MHz

- **1.5ps phase jitter**
- **Quick turnaround, low-cost TCXO**
- **Standard 7.0 x 5.0 x 2.5mm SMD package**
- **Supply voltage 2.5V or 3.3 VDC**
- **Frequency stability from ±1ppm over -40 to +85°C**

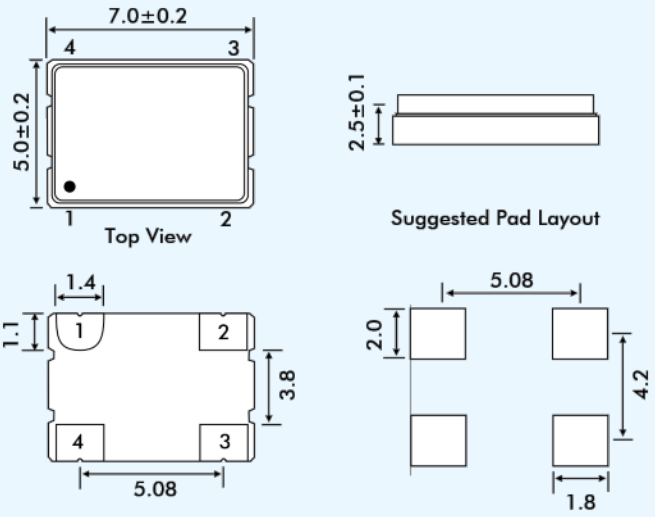
DESCRIPTION

(V)EMQF574T series TCXOs are packaged in a miniature, 3.2 x 2.5mm outline, ceramic SMD package. With squarewave (LVCMOS) output, tolerances are available from ±1.0ppm over -40° to +85°C. The part exhibits low supply current, 25mA typ. at 50MHz.

SPECIFICATION

Product Series Code	
TCXO:	EMQF574T
VCTCXO:	VEMQF574T
Frequency Range:	10.0MHz to 245MHz
Output Waveform:	Squarewave, LVCMOS
Phase jitter rms	
12kHz to 20MHz:	1.5ps typical
1.875MHz to 20MHz:	<400fs
Initial Calibration Tolerance:	<±1.0ppm at +25°±2°C
Operating Temperature Range:	from 0°~50° to -40°~+85°C
Frequency Stability	
vs. Temperature:	±2.5ppm over -30 to 85°C (Default) ±0.5ppm over -30 to 85°C (Available) ±1.0ppm over -40 to 85°C (Available)
vs. Ageing:	±1.0 ppm max. first year
vs. Voltage Change:	±0.2 ppm max. ±5% change
vs. Load Change:	±0.2 ppm max. ±10% change
vs. Reflow (SMD type):	±1.0ppm max. for one reflow *(measured after 24 hours)*
Supply Voltage:	+2.5VDC±5% or +3.3Volts ±5%
Output Logic Levels:	Logic High: 90% Vdd min. Logic Low: 10% Vdd max.
Rise/Fall Times:	1.5ns typ. 3.0ns max.
Duty Cycle:	50%±5% standard,
Start-up Time:	5ms typical, 10ms max.
Output Load:	15pF
Current Consumption at +2.5V	
at 50MHz:	24mA typical
at 125MHz:	28mA typical
at 200MHz:	30mA typical
Current Consumption at +3.3V	
at 50MHz:	26mA typical
at 125MHz:	30mA typical
at 200MHz:	34mA typical

EMQF574T - OUTLINES AND DIMENSIONS



Pad Connections

1 No connection for TCXO / Voltage control for VCTCXO
2 Ground
3 Output
4 Supply Voltage

VEMQF574T VOLTAGE CONTROL SPECIFICATION

Control Voltage	
Vdd = +2.5V:	Vcon centre = +1.4V
Vdd = +3.3V:	Vcon centre = +1.5V
V Control Range	
Supply = +2.5V:	Vcon range = +1.4V±1.0V
Supply = +3.3V:	Vcon range = +1.5V±1.0V
Frequency Pulling Range:	±8 ppm min.
Slope Polarity:	Positive *(increase of control voltage increases output freq.*
Linearity:	±5% typical ±10% max.
Input Impedance:	1MΩ typical
Modulation Bandwidth:	10kHz min. measured at +3dB

PART NUMBERS

Example: **_EMQF574T33-50.000-2.5/-30+75**

Series Description
TCXO = EMQF574T
VCTCXO = VEMQF574T

Supply Voltage
3.3V = 33
2.5V = 25

Frequency (MHz)

Stability over OTR (±ppm)

Operating Temperature Range (OTR) (°C)
(Lower and upper limits.)

SSB PHASE NOISE at 25°C

Offset		10Hz	100Hz	1kHz	10kHz	100kHz	1 MHz	10 MHz
VMQF326T 156.25MHz	(dBc/Hz)	-57	-94	-105	-112	-113	-134	-140
RMS Jitter		1.5ps (12kHz to 20MHz integrated)						

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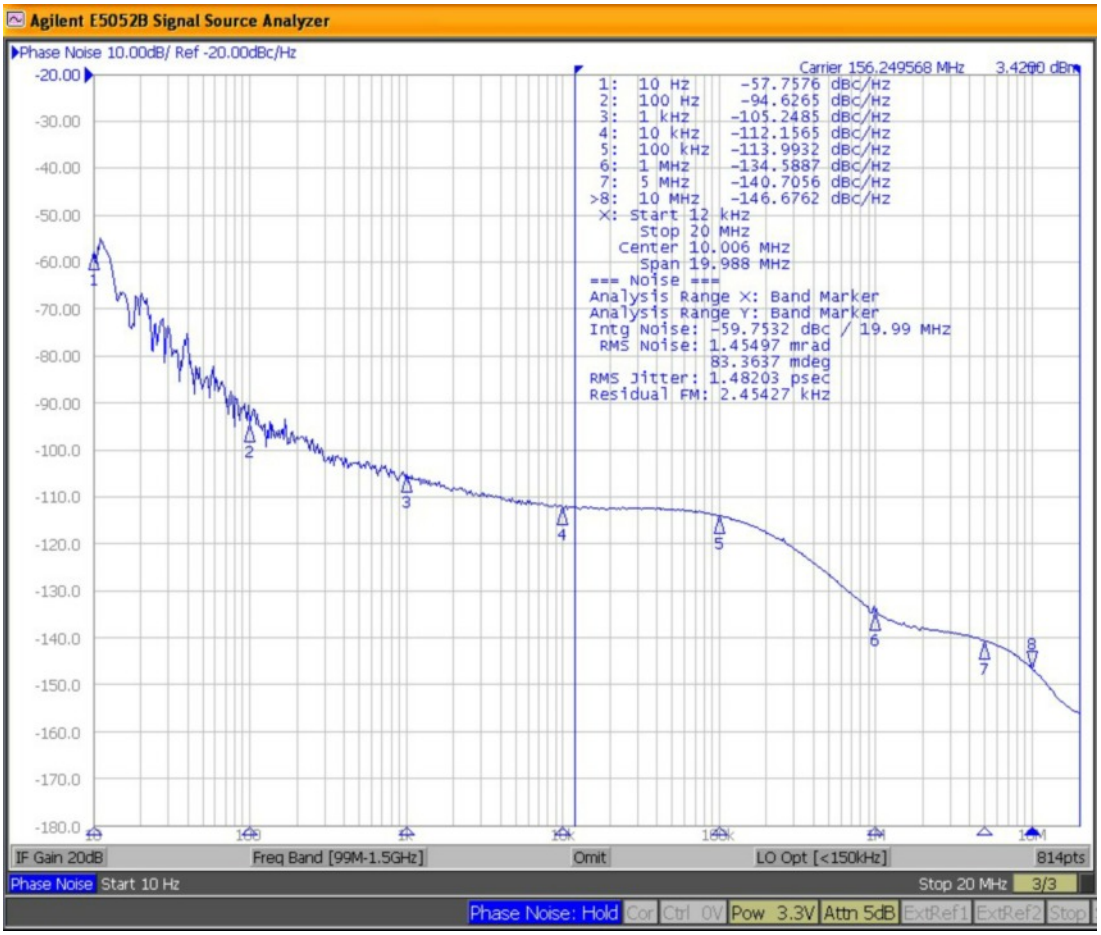
ENVIRONMENTAL PERFORMANCE SPECIFICATIONS

Status:	RoHS Compliant, Pb (lead) free in accordance with EU Directive 2002/95/EC 6/6(2002/95/EC) and WEEE (2002/96/EC)
Moisture Sensitivity:	Level 1 (infinite) according to IPC/JEDEC J-STD-020D.1
Second Level Interconnect:	e4
Storage Temperature Range:	-55° to +125°C
Humidity:	85%RH, 85°C, 48 hours
Fine Leak / Gross Leak:	MIL-STD-202F method 1014, condition A / MIL-STD-883, method 1014, condition C
Solderability:	MIL-STD-202F method 208E
Reflow:	260°C for 10s, x2
Vibration:	MIL-STD-202F method 204, 35g, 50 to 2000Hz
Shock:	MIL-STD-202F method 2133B, test condition E, 1000g² ½ sinewave
Resistant to Solvents:	MIL-STD-202F method 215
Temperature Cycling:	MIL-STD-883 method 1010
ESD Rating:	Human Body Model (HBM): 1500V min.
Pad Surface Finish:	Gold (Au) 0.3µm to 1.0µm over nickel (N) 1.27µm to 8.89µm
Weight of device:	0.045gm typical

PHASE NOISE PLOT OF VMQF574P33-156.250MHz



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