

## EQAX-20

### TCXO with STRATUM III Long-term stability option

#### DESCRIPTION

The Euroquartz EQAX-20 TCXO conforms to IEC60679-1, Stratum 3, providing a low-noise, highly-stable and reliable source of clock signals.

#### FEATURES

- Compact, SMD package
- Frequency range from 10MHz to 20MHz
- Operating temperature range, -20° to +70°C
- Operable temperature -30° to +75°C
- Supply Voltage 3.3 Volts

#### SPECIFICATION

<b>Frequency Range:</b>	9Mhz to 33Mhz
<b>Standard Frequencies:</b>	10, 12.8, 16.384, 19.44MHz
<b>Frequency Stability</b>	
<b>Initial Tolerance:</b>	±1ppm @25°C
<b>Vs. Temperature:</b>	±2.5ppm -40°~+85°C ±1.5ppm -20°~+70°C -0.8ppm 0°~+50°C
<b>Vs. Supply Voltage Var:</b>	±0.2ppm
<b>Vs. Load Change:</b>	±0.2ppm
<b>Long Term Ageing (1st Year):</b>	±1ppm (@40°C)
<b>Long Term Stab. (15 Years):</b>	±4.6ppm
<b>Frequency Adjustment Range</b>	
<b>Electronic Frequency Control</b>	±5ppm
<b>EFC Voltage Vc:</b>	0.25~+4.5V (Option II = '50' 0.30~+3.0V (Option II = '33)
<b>EFC Slope:</b>	Positive
<b>EFC Input Impedance:</b>	10k Ohms
<b>Absolute Pull Range:</b>	
<b>RF Output</b>	
<b>Signal Waveform:</b>	HCMOS
<b>Load:</b>	15pF
<b>Symmetry (Duty Cycle):</b>	60%/40%
<b>Start-up Time:</b>	4 ms
<b>Supply Voltage:</b>	+5.0V±5%/+3.3V±5%
<b>Current Consumption:</b>	25mA maximum (@25°C)
<b>Operable Temperature Range:</b>	-40°~+85°C
<b>Storage Temperature Range:</b>	-40°~+85°C
<b>Enclosure:</b>	As drawing

#### ORDERING CODE

To order, specify as follows:

#### FREQUENCY-MODEL-OPTION I-OPTION II-OPTION III

EXAMPLE: **12.800MHz EQAX-20-25-50-46**

##### OPTION I - Tolerance vs Temperature

25 = ±2.5ppm -40°~+85°C  
15 = ±1.5ppm -20°~+70°C  
08 = 0.8ppm 0°~+50°C

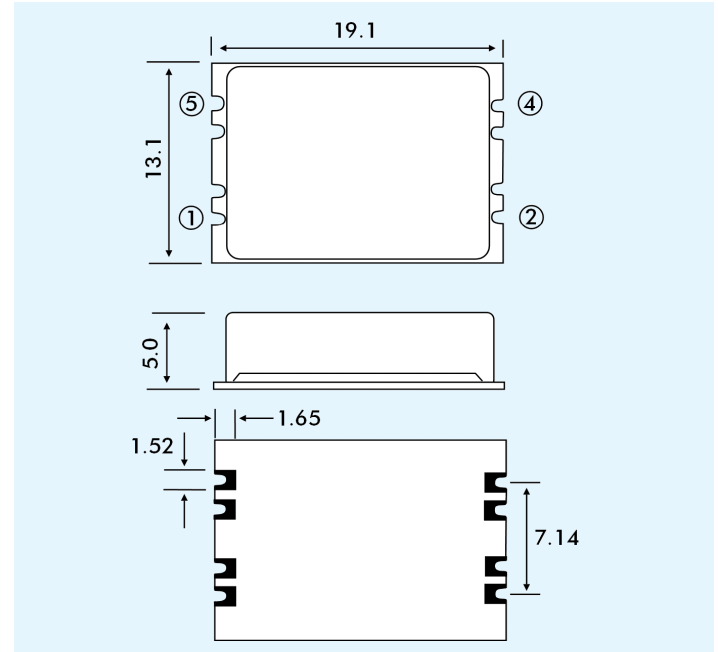
##### OPTION II - EFC Voltage

50 = 0.25V~4.75V  
33 = 0.30V~3.0V

##### OPTION III - Long Term Stability

46 = ±4.6ppm overall, 15 years

#### OUTLINES AND DIMENSIONS



#### PAD CONNECTIONS

Pad No.	Symbol	Function
1	VC	Voltage Control
2	GND	Ground
4	RF OUT	RF Output
5	Vs	Supply Voltage

#### ENVIRONMENTAL

Test	IEC 60068 Part . .	IEC 61178-1 Clause . .	Test Conditions
Visual inspection, Dimensions		4.5 4.6	Enclosure styles as in IEC 60122-3, if applic.
Sealing tests	2-17	4.8.2	Gross Leak: Test Qc Fine Leak: Test Qk
Solderability, Resistance to soldering heat	2-20	4.8.3	Test Ta (235±5°C), method 1 Test Tb, method 1A, 5s
Shock	2-27	4.8.8	Test Ea, 3x per axis 100g, 6ms 1/2sine
Bump	2-29	4.8.6	Test Eb, 4000 bumps/axis, 40g, 6ms
Free fall	2-32	4.8.9	Test Ed, procedure 1, 2 drops from 1m ht.
Vibration, Sinsoidal	2-6	4.8.7	Test Fc, 30 min/axis, 10Hz-55Hz, 0.75mm; 55Hz -2kHz, 10g
Rapid change of Temperature	2-14	4.8.5	Test Na, 10 cycles at extremes of operating temperature range.
Dry heat	2-2	4.8.11	Test Ba, 16 h at upper temperature.
Damp heat, cyclic	2-30	4.8.12	Test Db variant 1 severity b, 55°C/95%rh
Cold	2-1	4.8.13	Test Aa, 2h at lower temperature indicated by climatic category.
Climatic sequence	1-7	4.8.14	Sequence of 4.8.11, 4.8.12 and 4.8.13
Damp heat, steady state	2-3	4.8.15	Test Ca, 56 days
Endurance tests, - ageing		4.9.1	30 days @ 85°C
- extended ageing		4.9.2	1kh, 2kh, 8kh, @85°C