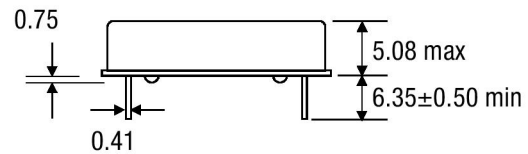


Oscillator Specification: E4890LF

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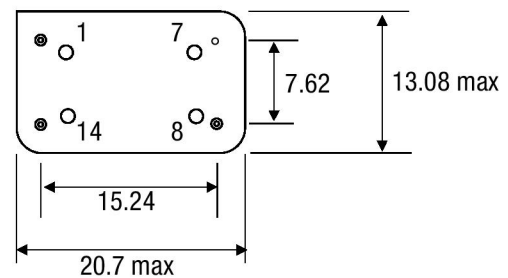
Outline: dimensions in mm

| Pin | Function |
|-----|--------------------|
| 1 | Do not connect |
| 7 | Ground |
| 8 | Output |
| 14 | Supply Voltage, Vs |



Marking: shall include as a minimum:

- 1) Manufacturer (RAKON)
- 2) Device number (E4890)
- 3) Frequency (19.44 MHz)
- 4) Date Code (YYWWL)
- 5) Antistatic symbol (Δ , denotes pin 1)



Electrical:

| | |
|-------------------------------|--|
| Frequency F0 | 19.44 MHz |
| Supply Voltage, Vs | 3.3 V \pm 5% |
| Input Current | \leq 6 mA |
| Output | |
| Type | HCMOS |
| Load | 15 pF |
| Vol | \leq 10% Vs |
| Voh | \geq 90% Vs |
| Rise time 10% to 90% | \leq 8 ns |
| Fall time 90% to 10% | \leq 8 ns |
| Duty Cycle, @ 50% | 45% to 55% |
| Frequency Stability | |
| Calibration tolerance at 25°C | \leq \pm 1.0 ppm reference to F0 |
| Temperature, 0 to 70°C | \leq \pm 0.28 ppm reference to $(F_{max}+F_{min})/2$ |
| Supply Voltage, \pm 5% | \leq \pm 0.1 ppm reference to frequency at 3.3V |
| Load, \pm 5pF | \leq \pm 0.1 ppm reference to frequency at 15 pF |
| Ageing, 24 hours | \leq \pm 30 ppb (at constant Vs, Temp & Load) |
| Ageing, first year | \leq \pm 1.0 ppm |
| Ageing, 10 years incl. year 1 | \leq \pm 3.0 ppm |

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Environmental:

Storage temperature range: -50 to 95°C

Vibration IEC 60068-2-6 Test Fc Procedure B4, 10 - 58 Hz 1.5mm displacement, 58 - 500 Hz at 100 ms⁻² (10_{gn}), 30 minutes in each of three mutually perpendicular planes at 1 octave per minute.

Shock IEC 60068-2-27 Test Ea, 1000ms⁻²(100_{gn}) acceleration for 6ms duration, half sine, shocks in each direction along 3 mutually perpendicular axes.

Sealing IEC 60068-2-17 Test Qk (Fine Leak), (MIL-STD-202 Method 112 Test condition C) and IEC 60068-2-17 Test Qc (Gross Leak),(MIL-STD-202 Method 112 Test condition D)

Solderability IEC 60068-2-20 Test Ta Method 1 (solder bath), (MIL-STD-202 Method 208), Temperature 235°C.

RoHS: Parts are fully compliant with the European Union directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment. Note: These RoHS compliant parts are suitable for assembly using both Lead-free solders and Tin/Lead solders.

Marking Indelibly marked, resistant to all common solvents.

"Samples supplied according to this specification are supplied from our development or pre-production programme and as such are not qualification approved products. No condition warranty or representation regarding quality, suitability, performance, life or continuation of supply is given or implied and Guarantee in clause 6a of our standard conditions is not applicable. The right is reserved to change the design or specification or cease supply without notice." RAKON UK LTD.

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