

Oscillator Specification: E4383

Issue 3, 2nd March 2017 (ECO 8101)

Custom specification, based on CFPT-9000 datasheet, issue 10

Outline in mm

Pad Connections

1. Do not connect
2. NC
3. Do not connect
4. GND
5. RF Output
6. NC
7. NC
8. Tri-State Control (Enable)
9. Supply, +Vs
10. Do not connect

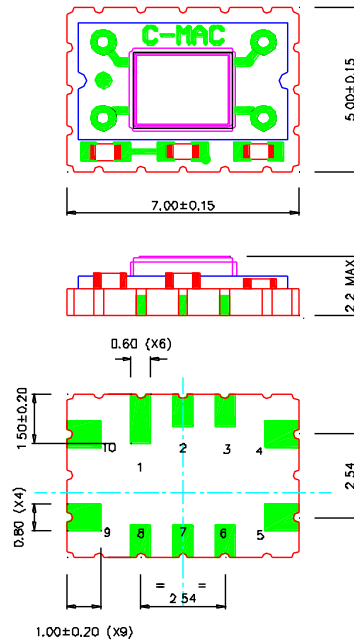
Weight 170mg (typical)

Marking

Line #1: R N YW

Line #2: 4383 YW

Where R = Rakon Logo
 N = New Zealand Plant Code
 YW = Crystal Date Code (Line #1)
 4383 = Abbreviated Part Number
 YW = Oscillator Date Code (Line #2)



Electrical

| | |
|---|---|
| Nominal Frequency, Fo | 44.0 MHz |
| Supply Voltage, Vs | 3.3 V ± 5% |
| Input Current | ≤ 15 mA |
| Output: | |
| Type | ACMOS |
| Load | 15 pF nom., 50 pF max. |
| Vol | ≤ 0.1 * Vs |
| Voh | ≥ 0.9 * Vs |
| Duty cycle @ 50% | 45% to 55% |
| Rise time, 10% to 90% | ≤ 4 ns (at max. load) |
| Fall time, 90% to 10% | ≤ 4 ns (at max. load) |
| Frequency Stability | |
| Calibration tolerance and Temperature, -40°C to +85°C | ≤ ± 4.0 ppm reference to Fo |
| Supply Voltage, ± 5% | ≤ ± 0.75 ppm reference to frequency at 3.3V |
| Load, ± 5pF | ≤ ± 0.25 ppm reference to frequency at 15pF |
| Reflow soldering | ≤ ± 1.0 ppm |
| Ageing, first year | ≤ ± 2.0 ppm |
| Ageing, 10 years | ≤ ± 6.0 ppm |
| All causes, -40°C to +85°C, 10 years | ≤ ± 12.0 ppm reference to Fo |

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Tri-State

Pad 8 open circuit or $\geq 0.6V_s$

Output Enabled

Pad 8 $\leq 0.2V_s$

Output High impedance

In Tri-state mode, the output stage is disabled but the oscillator and compensation circuits are still active.

Frequency Adjustment

None

| | | |
|---------------------------------|--------|-------------|
| Phase Noise (typical at offset) | 1Hz | -52 dBc/Hz |
| | 10Hz | -85 dBc/Hz |
| | 100Hz | -109 dBc/Hz |
| | 1kHz | -123 dBc/Hz |
| | 10kHz | -132 dBc/Hz |
| | 100kHz | -137 dBc/Hz |
| | 1MHz | -142 dBc/Hz |

Jitter (RMS, 10Hz ~ 1MHz, typical)

0.9 ps

Environmental:

Storage Temperature Range: -55 to +125°C

Vibration IEC 60068-2-6 Test Fc, 10 – 60Hz 1.5mm displacement, 60 – 2000Hz at 10g_r, 30 minutes in each of three mutually perpendicular axes at 1 octave per minute.

Shock IEC 60068-2-27 Test Ea, 980ms⁻² acceleration for 6ms duration, 3 shocks in each direction along three mutually perpendicular axes

Soldering SMD product suitable for Convection Reflow soldering. Peak temperature 260°C. Maximum time above 220°C, 60 secs.

Solderability MIL-STD-202, Method 208, Category 3

Marking Laser Marked