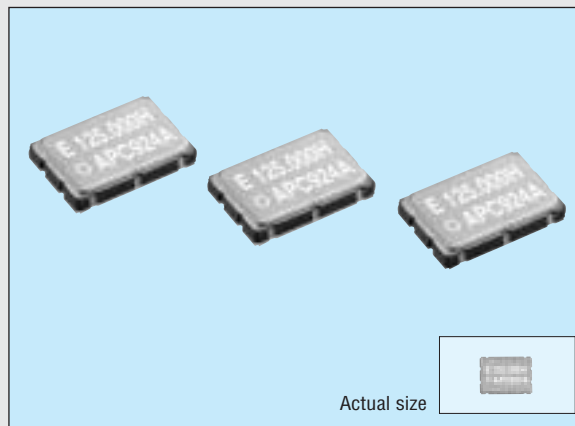


LOW JITTER HIGH FREQUENCY CRYSTAL OSCILLATOR

EG-2101CA

Product number (please refer to page 2)
Q3803CA0xxxxx00

- Generates high frequency clock with fundamental mode
- Very low jitter and low phase noise.
- Ceramic package with 1.4 mm Max. thickness.
- Excellent shock resistance and environmental capability.
- Differential LV-PECL output.
- Provided with output enable function (OE).



Specifications (characteristics)

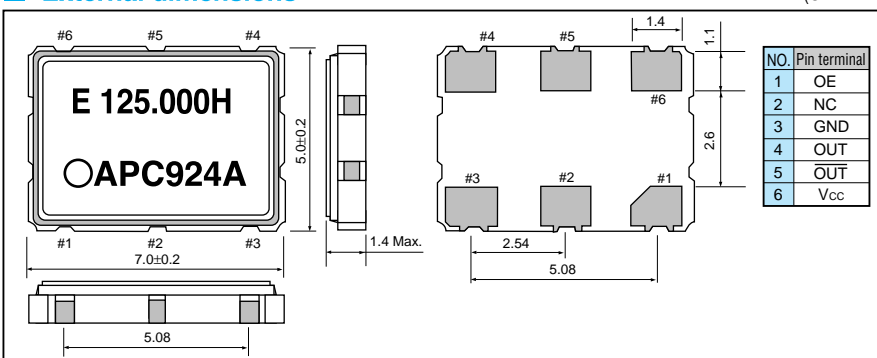
| Item | Symbol | Specifications | Remarks |
|---------------------------------|-----------------------|---|---|
| Output frequency range | f_0 | 62.5000 MHz to 400.000 MHz | Please contact us for inquiries about the available frequency |
| Power source voltage | Max. supply voltage | V_{CC-GND} | -0.5 V to +7.0 V |
| | Operating voltage | V_{CC} | 3.3 V \pm 0.15 V |
| Temperature range | Storage temperature | T_{STG} | -40 °C to +100 °C |
| | Operating temperature | T_{OPR} | 0 °C to +70 °C |
| Frequency stability | $\Delta f/f_0$ | $\pm 50 \times 10^{-6}$, $\pm 100 \times 10^{-6}$ *1 | 0 °C to +70 °C |
| Current consumption | I_{OP} | 60 mA Max. | OE= V_{CC} |
| Output disable current | I_{OE} | 25 mA Max. | OE=GND |
| Duty | tw/t | 45 % to 55 % | PCH.PCY.PCZ |
| | | 47.5 % to 52.5 % | $f_0 \leq 160$ MHz DCH.DCY.DCZ |
| Output voltage | V_{OH} | 2.35 V Typ. $V_{CC}-1.025$ to $V_{CC}-0.88$ | DC characteristics |
| | V_{OL} | 1.60 V Typ. $V_{CC}-1.81$ to $V_{CC}-1.62$ | DC characteristics |
| Output load condition (fan out) | R_L | 50 Ω | Terminated to $V_{CC}-2.0$ V |
| Output enable | V_{IH} | 0.7 V_{CC} Min. | OE |
| disable input voltage | V_{IL} | 0.3 V_{CC} Max. | OE |
| Output rise time | t_{TLH} | 600 ps Max. | 20 % \rightarrow 80 % of ($V_{OH} - V_{OL}$) |
| Output fall time | t_{THL} | 600 ps Max. | 80 % \rightarrow 20 % of ($V_{OH} - V_{OL}$) |
| Oscillation start up time | t_{OSC} | 10 ms Max. | Time at 3.15 V to be 0 s |
| Jitter | t_{DJ} | 5 ps Typ.(10 ps Max.) | Deterministic Jitter |
| | t_{RJ} | 3 ps Typ.(4 ps Max.) | Random Jitter |
| | t_{RMS} | 3 ps Typ.(4 ps Max.) | σ |
| | t_{P-P} | 25 ps Typ.(40 ps Max.) | Peak to Peak |
| | t_{acc} | 4 ps Typ.(5 ps Max.) | Accumulated Jitter(σ) n= 2 to 50000 cycles |

*1 Include initial frequency tolerance, reflow shift, temperature variation, supply voltage variation and aging (As per below table).

| Operating voltage | | C : 3.3 V | | |
|----------------------|---|-------------------|----------------|---------------------|
| Output mode | | P : Duty \pm 5% | | D : Duty \pm 2.5% |
| Frequency range(MHz) | | 125 to 318.75 | 318.751 to 400 | 62.5 to 160 |
| Frequency stability | H : $\pm 100 \times 10^{-6}$ (0 °C to +70 °C) | PCH | — | DCH |
| | Y : $\pm 100 \times 10^{-6}$ (0 °C to +70 °C) except Aging | PCY | PCY | DCY |
| | Z : $\pm 50 \times 10^{-6}$ (0 °C to +70 °C) except Reflow soldering drift, Operating voltage range and Aging | PCZ | — | DCZ |

External dimensions

(Unit: mm)



Recommended soldering pattern (Unit: mm)

