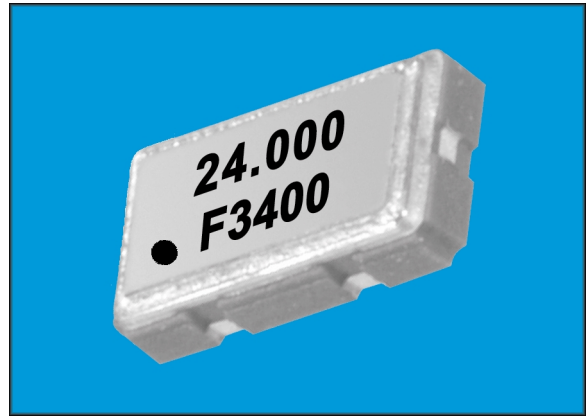


ULTRA MINIATURE SMD HCMOS/TTL OSCILLATORS

F3400/F3410

Fox introduces the F3400 series, our newest ultra miniature surface mount oscillator. This AT-strip design is housed in a 6.0 x 3.5 x 1.5mm ceramic package, providing one of the smallest footprints in the industry.



FEATURES

- TTL / HCMOS
- Ultra Miniature Package
- Tri-state Enable/ Disable
- Tape & Reel (2,000 pcs. STD)

| • MODEL NUMBER SELECTION | | |
|--------------------------|--------------|-------|
| Frequency Stability | Model Number | |
| ±100PPM | F3400 | F3410 |
| ±50PPM | F3405 | F3415 |
| ±25PPM | F3406 | F3416 |

Note: -40°C ~ +85°C "R" version available in 100 & 50 PPM (ex: F3400R)

• ELECTRICAL CHARACTERISTICS (VDD = 5.0V, CL = Max Load)

| PARAMETERS | FREQUENCY RANGE | CONDITIONS | F3400 | | F3410 | | UNITS |
|-------------------------------|------------------------------------|----------------------------------------------------|-------|-----------|-------|------------|-----------|
| | | | MIN | MAX | MIN | MAX | |
| Frequency Range (Fo) | | | 1.544 | 50.000 | 1.544 | 50.000 | MHz |
| Frequency Stability | 1.544 ~ 50.000 | All Conditions* | -100 | +100 | -100 | +100 | PPM |
| Temperature Range | | | | | | | |
| Operating (TOPR) | | | -10 | +70 | -10 | +70 | °C |
| Storage (TSTG) | | | -30 | +85 | -30 | +85 | |
| Supply Voltage (VDD) | | | +4.5 | +5.5 | +4.5 | +5.5 | V |
| Input Current (IDD) | 1.544 ~ 25.000 25.000+ ~ 50.000 | | | 25 40 | | 13 24 | mA |
| Output Symmetry | 1.544 ~ 50.000 | 2.5V | 40 | 60 | 40 | 60 | % |
| Rise Time (Tr) | 1.544 ~ 50.000 | 0.5V to 4.5V | | 5 | | 10 | nS |
| Fall Time (Tf) | 1.544 ~ 50.000 | 4.5V to 0.5V | | 5 | | 10 | |
| Output Voltage (VOL) (VOH) | 1.544 ~ 50.000 | IOL = 16mA / IOL = 4mA IOH = -16mA / IOH = -4mA | 4.5 | 0.5 | 4.5 | 0.5 | V |
| Output Current (IOL) (IOH) | 1.544 ~ 50.000 | VOL = 0.5V VOH = 4.5V | | 16 -16 | | 4 -4 | mA |
| Output Load | 1.544 ~ 50.000 | TTL HCMOS | | 10 50 | | 10LS 15 | TTL pF |
| Start-up Time (Ts) | 1.544 ~ 50.000 | | | 10 | | 10 | mS |
| Enable/Disable Time | | | | 100 | | 100 | nS |

* Inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, aging, shock, and vibration.

*** An internal pullup resistor from pin 1 to pin 4 allows active output if pin 1 is left open.

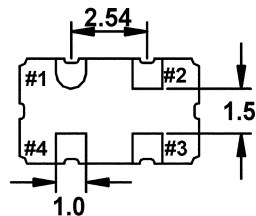
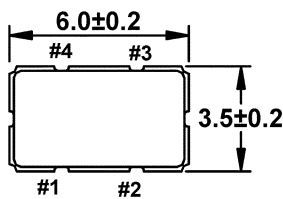
Note: A 0.01µF bypass capacitor should be placed between VDD (Pin 4) and GND (Pin 2) to minimize power supply line noise.

See page 44 for mechanical specifications, test circuits, and output waveform.

All specifications subject to change without notice. Rev. 03/02/00

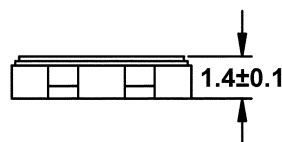
• ENABLE / DISABLE FUNCTION**

| INH (Pin 1) | OUTPUT (Pin 3) |
|-----------------------|----------------|
| OPEN *** | ACTIVE |
| '1' Level VIH ≥ 2.2 V | ACTIVE |
| '0' Level VIL ≤ 0.8 V | High Z |

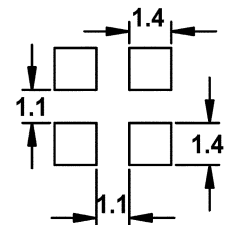


Pin Connections

- #1 E/D**
- #2 GND
- #3 Output
- #4 +5.0V_{DC}



Recommended Solder Pad Layout



All dimensions are in millimeters.

See page 74 for tape and reel specifications.