

# VFAC3

## Surface Mount Clock Oscillator

### ACMOS / LSTTL Compatible



#### Features

- ACMOS – TTL Compatible
- Very Low Phase Jitter
- Wide Frequency Range
- Miniature Ceramic Package
- EMI Shielded
- Tight Duty Cycle Available
- Wide Temperature Range Available
- 5.0V, 3.3V, 2.5V, and 1.8V Available
- Tristate control standard



#### RoHS Status

RoHS  
6/6

#### Electrical Specifications

| Parameter                | Symbol                                                                                      | Condition                                                                        | Min                          | Typ                          | Max                          | Unit | Note                          |
|--------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------|------------------------------|------------------------------|------|-------------------------------|
| Input Break Down Voltage | V <sub>cc</sub>                                                                             |                                                                                  | -0.5                         |                              | 7.0                          | V    |                               |
| Storage Temp.            | T <sub>s</sub>                                                                              |                                                                                  | -55                          |                              | +125                         | °C   |                               |
| Frequency Range          | F                                                                                           |                                                                                  | 25<br>25<br>25               |                              | 165<br>200<br>125            | MHz  | 5V<br>3.3V, 2.5V,<br>1.8V     |
| Frequency Stability      | ΔF/F                                                                                        | Overall conditions including: calibration, temp., aging 10 yrs, shock, vibration | ±20                          |                              | ±100                         | ppm  | See "How to Order" table      |
| Input Voltage            | V <sub>cc</sub>                                                                             |                                                                                  | 4.75<br>3.15<br>2.38<br>1.71 | 5.00<br>3.30<br>2.50<br>1.80 | 5.25<br>3.45<br>2.63<br>1.89 | V    | See "How to Order" table      |
| Input Current            | I <sub>cc</sub>                                                                             | F= 100MHz 15pF load                                                              |                              |                              | 70                           | mA   |                               |
| Load                     | 10 LSTTL gates or 30pF Typ, 50pF Max.                                                       |                                                                                  |                              |                              |                              |      |                               |
| Duty Cycle               |                                                                                             | @1.4V<br>@50% V <sub>cc</sub>                                                    | 40<br>40                     | 50<br>50                     | 60<br>60                     | %    | 5% and 2.5% options available |
| Rise / Fall Time         | Tr/Tf                                                                                       | 0.4V to 2.4V 20% to 80%                                                          |                              |                              | 1.5                          | ns   |                               |
| Logic "1" Level          | V <sub>oh</sub>                                                                             | Max Load                                                                         | 0.9V <sub>cc</sub>           |                              |                              | V    |                               |
| Logic "0" Level          | V <sub>ol</sub>                                                                             | Max Load                                                                         |                              |                              | 0.1V <sub>cc</sub>           | V    |                               |
| Start-up Time            | T <sub>s</sub>                                                                              |                                                                                  |                              |                              | 15                           | ms   |                               |
| Phase Jitter             |                                                                                             | 1σ                                                                               |                              |                              | 1                            | ps   | f <sub>j</sub> >1KHz          |
| Tristate Function        | Input HIGH (>0.8V <sub>cc</sub> ) or floating: Active; Input LOW (0.5V): Infinite Impedance |                                                                                  |                              |                              |                              |      |                               |
| Enable/ Disable Time     |                                                                                             |                                                                                  |                              |                              | 100                          | ns   |                               |



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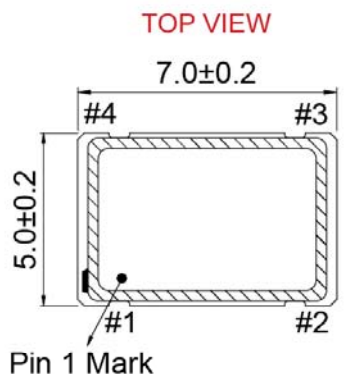
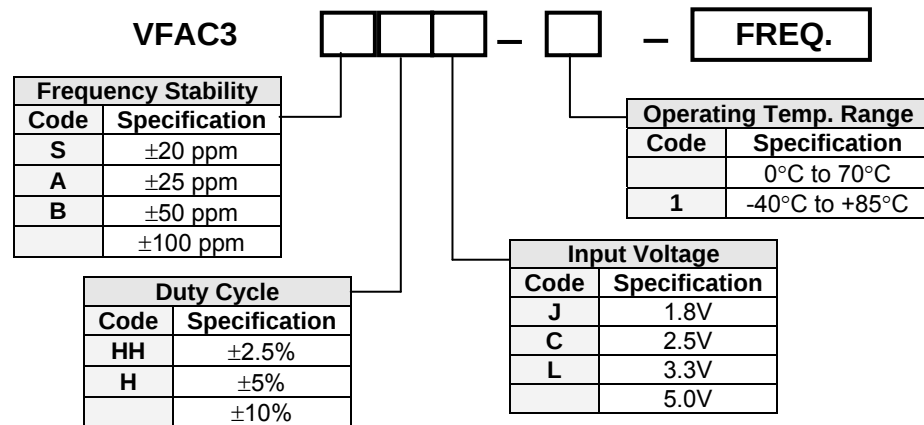
### ACMOS / LSTTL Compatible



#### Environmental and Mechanical Conditions

| Parameter                   | Condition                                                   |
|-----------------------------|-------------------------------------------------------------|
| Operating Temperature Range | 0°C to +70°C or -40°C to +85°C available                    |
| Mechanical Shock            | Per MIL-STD-202, Method 213, Cond. E                        |
| Thermal Shock               | Per MIL-STD-883, Method 1011, Cond. A                       |
| Vibration                   | Per MIL-STD-883, Method 2007, Cond. A                       |
| Soldering Conditions        | 260°C for 10s Max., or 230°C for 90s                        |
| Hermetic Seal               | Leak rate less than 5 x 10 <sup>-8</sup> atm.cc/s of helium |

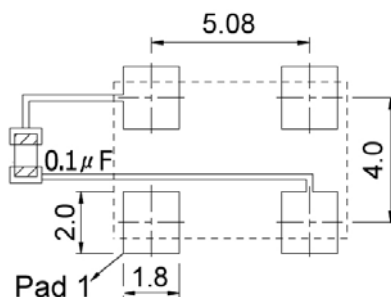
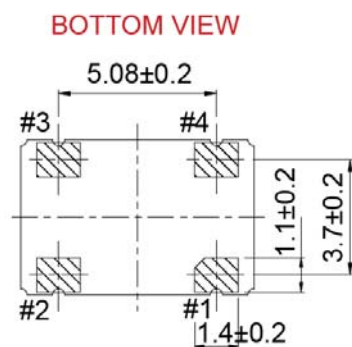
#### How to Order



**SIDE VIEW**



UNIT: mm



Recommended soldering pattern

| Pin # | Connection       |
|-------|------------------|
| Pin 1 | Tristate Control |
| Pin 2 | Ground           |
| Pin 3 | Output           |
| Pin 4 | Vcc              |

