

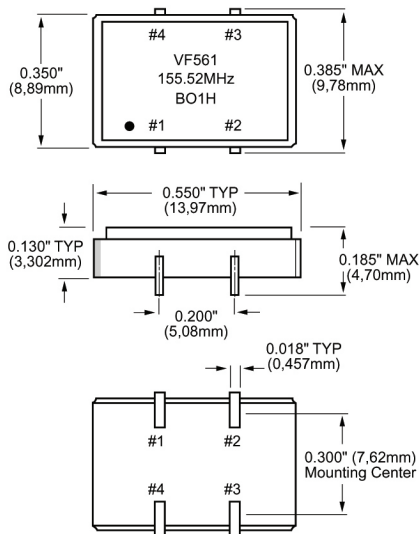
## VF561

RoHS  
6/6

# PECL Compatible Surface Mount Clock Oscillator

## FEATURES

- Wide Frequency Range
- Very Low Phase Jitter
- EMI Shielded
- Tight Duty Cycle Available
- Industrial Temperature Range (-40°C to +85°C) Available
- Miniature Ceramic Package
- Industry Standard Footprint
- Complementary Output



All dimensions are typical unless otherwise specified.

### Creating a Part Number

**VF561** [ ] [ ] - [ ] - **FREQ.**

| FREQUENCY STABILITY |                 | OPERATIONAL TEMP. RANGE |                     |
|---------------------|-----------------|-------------------------|---------------------|
| Code                | Specification   | Code                    | Specification       |
| S                   | ±20 ppm         |                         | 0°C to +70°C (std.) |
| A                   | ±25 ppm         | 1                       | -40°C to +85°C      |
| B                   | ±50 ppm         |                         |                     |
|                     | ±100 ppm (std.) |                         |                     |
| C                   | ±500 ppm        |                         |                     |

| DUTY CYCLE |               |
|------------|---------------|
| Code       | Specification |
| HH         | ±2.5%         |
|            | ±5% (std.)    |

| INPUT VOLTAGE |                 |
|---------------|-----------------|
| Code          | Specification   |
| L             | 3.3 Volt        |
|               | 5.0 Volt (std.) |

Example: VF561AL-1-200MHz: Frequency Stability ±25ppm, Duty Cycle ±5.0%, Input Voltage 3.3 Volt ±5%, Operating Temperature -45°C to +85°C, Frequency 200.000MHz.

| Parameter                   | Symb                                                                | 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                                                                   |                                                                                                           | 15           |              | 300          | MHz  |                       |
| Frequency Stability         | ΔF/F                                                                | Overall conditions including: calibration, temp., aging 10 yrs, shock, vibration                          |              |              | ±100         | ppm  | 1                     |
| Input Voltage               | V <sub>cc</sub>                                                     |                                                                                                           | 4.75<br>3.15 | 5.00<br>3.30 | 5.25<br>3.45 | V    | PECL<br>LVPECL        |
| Input Current               | I <sub>cc</sub>                                                     | 50 Ohm Load                                                                                               |              |              | 60           | mA   |                       |
| Load                        | 50 Ohm to V <sub>cc</sub> -2V or Thevenin Equivalent, Bias Required |                                                                                                           |              |              |              |      |                       |
| Duty Cycle                  |                                                                     | @ 50% output swing                                                                                        | 45           | 50           | 55           | %    | 2                     |
| Rise/Fall Time              | Tr/Tf                                                               | 20% to 80%                                                                                                |              |              | 1.5          | ns   |                       |
| Logic "1" Level             | V <sub>oh</sub>                                                     | @V <sub>cc</sub> = 5.0V<br>@V <sub>cc</sub> = 3.3V                                                        | 4.04<br>2.59 |              | 4.19<br>2.74 | V    | PECL<br>LVPECL        |
| Logic "0" Level             | V <sub>ol</sub>                                                     | @V <sub>cc</sub> = 5.0V<br>@V <sub>cc</sub> = 3.3V                                                        | 3.15<br>1.45 |              | 3.25<br>1.55 | V    | PECL<br>LVPECL        |
| Start-up Time               | T <sub>s</sub>                                                      |                                                                                                           |              | 2            | 10           | ms   |                       |
| Phase Jitter                |                                                                     | 1σ                                                                                                        |              |              | 1            | ps   | f <sub>j</sub> > 1KHz |
| Operating Temperature Range |                                                                     | 0°C to +70°C (-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, Max.                                                               |              |              |              |      |                       |
| Hermetic Seal               |                                                                     | Leak rate less than 5 x 10 <sup>-8</sup> atm.cc/s of helium                                               |              |              |              |      |                       |
| Pin Out                     |                                                                     | Pin #1-Complementary Output      Pin #3-Output<br>Pin #2-Ground, Case              Pin #4-V <sub>cc</sub> |              |              |              |      |                       |

### Notes:

1. Standard frequency stability (±20, ±25, ±50, others available).
2. Tighter duty cycle available.

All specifications are subject to change without notice.