

DESCRIPTION

HPF62 series LVPECL output oscillators cover the frequency range 38MHz to 640MHz. The part contains a high 'Q' fundamental crystal and utilizes a low jitter multiplier circuit.

SPECIFICATION

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|----------------------------------|--|
| Frequency Range: | 38.0MHz to 640.0MHz |
| Output Logic | LVPECL |
| Phase Noise: | See table |
| Frequency Stability: | See table |
| Operating Temp Range | |
| Commercial: | -10° to +70°C |
| Industrial: | -40° to +85°C |
| Input Voltage: | +2.5V or +3.3VDC ±5% |
| Output Voltage | |
| High '1': | Vdd -1.025V min. |
| Low '0': | Vdd -1.620V max. (RL = 50Ω to Vdd -2.0V) |
| Rise/Fall Times: | 0.7ns typical (20% Vdd to 80% Vdd) |
| Current Consumption (15pF load): | |
| 38MHz to 100MHz: | 65mA max. |
| 100.01 to 320MHz: | 80mA max. |
| 320.01 to 640MHz: | 90mA max. |
| Load: | 50Ω into Vdd-2.0V |
| Start-up Time: | 5ms typ., 10ms max. |
| Duty Cycle: | 50%±5% (at Vdd -1.3V) |
| Input Static Discharge Prot: | 2kV min. |
| Storage Temperature Range: | -55°C to +150°C |
| Ageing: | ±3ppm per year max., ±2ppm thereafter. At T amb +25°C |
| Enable/Disable | |
| No connection: | Both outputs enabled |
| Disable: | Both outputs are disabled when control pad is taken below 0.3V referenced to ground. Oscillator is always 'on'. (Special request - oscillator is off when disabled.) |
| Enable: | Both Outputs are enabled when control pad is taken above 0.7 Vcc referenced to ground. |

ABSOLUTE MAXIMUM RATINGS

(Permanent damage may be caused if operated beyond these limits.)

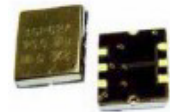
| | |
|---------------------|-------------------------------|
| Supply Voltage Vdd: | +4.6V max. |
| Input Voltage Vi: | Vss -0.5 min., VDD +0.5V max. |
| Input Voltage Vo: | Vss -0.5 min., Vdd +0.5V max. |

STABILITY OVER TEMPERATURE RANGE

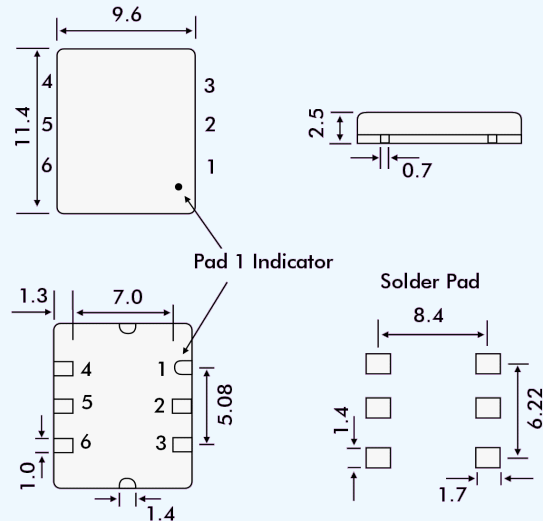
| Stability ±ppm | Temperature Range °C | Order Code |
|----------------|----------------------|------------|
| 25 | -10 to +70 | A |
| 50 | -10 to +70 | B |
| 100 | -10 to +70 | C |
| 25 | -40 to +85 | D |
| 50 | -40 to +85 | E |
| 100 | -40 to +85 | F |

JITTER (at Fr = 156.520MHz)

| | |
|--|---------------------------|
| Integrated Phase Jitter: (12kHz to 20MHz) | 0.4ps typical, 0.5ps max. |
| Period Jitter (RMS): | 3ps typical 5ps maximum |
| Period Jitter (peak to peak): | 20ps typical 30ps maximum |



OUTLINE & DIMENSIONS



Pad Connections HP_621

- 1 Enable/Disable (Tristate)
- 2 Not connected
- 3 Ground
- 4 Output
- 5 Complimentary Output
- 6 Supply Voltage

Pad Connections HP_622

- 1 Not connected
- 2 Enable/Disable (Tristate)
- 3 Ground
- 4 Output
- 5 Complimentary Output
- 6 Supply Voltage

PHASE NOISE (156.250MHz)

| Offset | dBc/Hz |
|--------|--------|
| 10Hz | -62 |
| 100Hz | -92 |
| 1kHz | -120 |
| 10kHz | -132 |
| 100kHz | -128 |
| 1MHz | -140 |
| 10MHz | -150 |

PART NUMBERS

HPF62 oscillator part numbers are derived as follows:

Example:

3HPF621-A-250.000

