

#### DESCRIPTION

HPA62 series LVPECL output oscillators cover the frequency range 60MHz to 320MHz. The part utilizes a crystal operating in third overtone mode (Non-PLL)

#### SPECIFICATION

|                              |  |
|------------------------------|--|
| Frequency Range:             | 60.0MHz to 320.0MHz  |
| 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:               | +2.5VDC or +3.3VDC ±5%   |
| Output Voltage               |  |
| High '1':                    | Vdd -1.025V min.   |
| Low '0':                     | Vdd -1.620V max.<br>(RL = 50Ω to Vdd -2.0V)  |
| Rise/Fall Times:             | 0.25ns typical<br>(20% Vdd to 80% Vdd)   |
| Current Consumption:         | 75mA max. at 212.50MHz   |
| 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.)

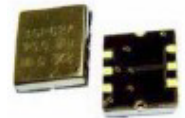
|                     |                               |
|---------------------|-------------------------------|
| Supply Voltage Vdd: | +4.6V max.                    |
| Input Voltage Vi:   | Vss -0.5 min., VDD +0.5V max. |
| Input Voltage Vo:   | Vss -0.5 min., Vdd +0.5V max. |

#### STABILITY OVER TEMPERATURE RANGE

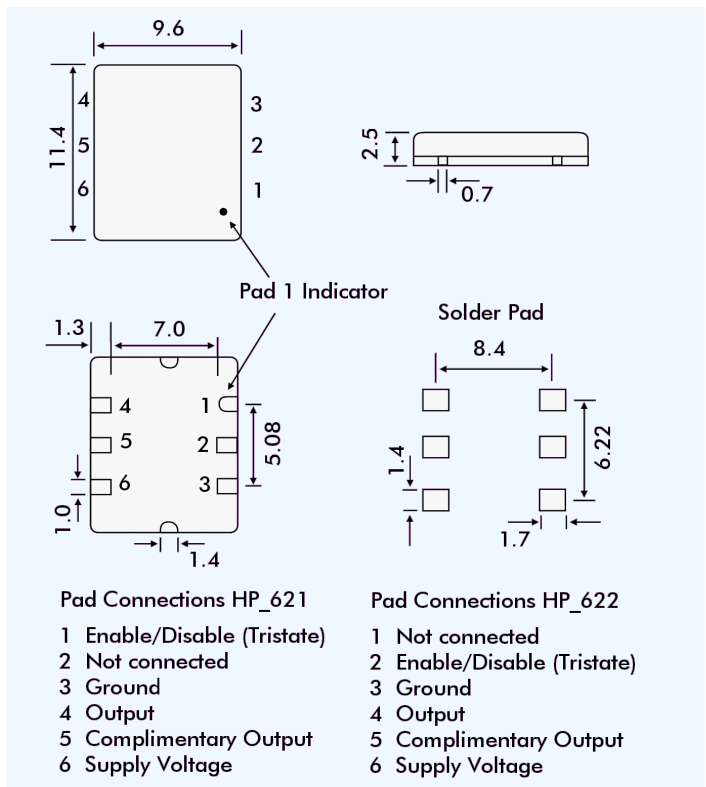
| Stability ±ppm | Temperature Range °C | Order Code |
|----------------|----------------------|------------|
| 25             | -10 to +70           | A          |
| 50             | -10 to +70           | B          |
| 100            | -10 to +70           | C          |
| 25             | -40 to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

#### JITTER

|  |                              |
|--|------------------------------|
| Integrated Phase Jitter:<br>(12kHz to 20MHz) | 0.25ps typical at 155.520MHz |
| Period Jitter (RMS):                         | 3.0ps typical at 155.520MHz  |
| Period Jitter (peak to peak):                | 21ps typical at 155.520MHz   |



#### OUTLINE & DIMENSIONS



#### PHASE NOISE (155.250MHz)

| Offset | dBc/Hz |
|--------|--------|
| 10Hz   | -65    |
| 100Hz  | -95    |
| 1kHz   | -120   |
| 10kHz  | -128   |
| 100kHz | -122   |
| 1MHz   | -120   |
| 10MHz  | -140   |

#### PART NUMBERS

HPA62 oscillator part numbers are derived as follows:

Example:

**3HPA621-A-250.000**

Supply Voltage

3 = 3.3VDC  
25 = 2.5VDC

Series Designation

Package Style  
5761 or 5762

Stability Code  
(See table)

Frequency