



Features and Benefits

Frequency range: 13.5-50MHz,65-220MHz
Supply voltage: 3.3V
Steady current: 60mA Max
Output waveform: LVPECL
Frequency stability vs. operating temperature: ±25ppm
Operating temperature: -40°C to + 85°C
Size: 7x5x1.8mm

Typical Applications

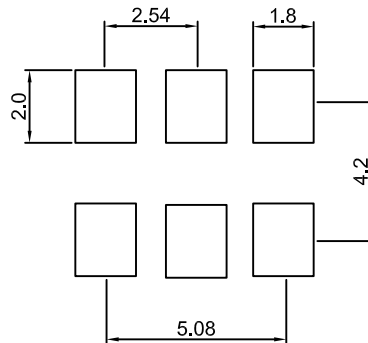
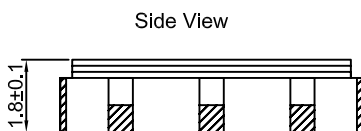
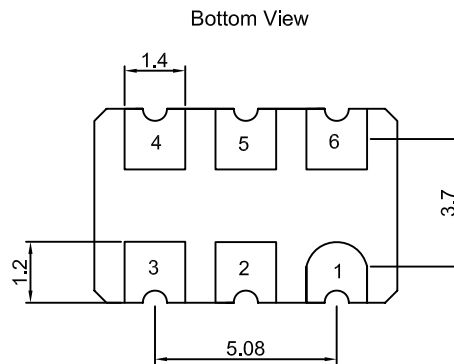
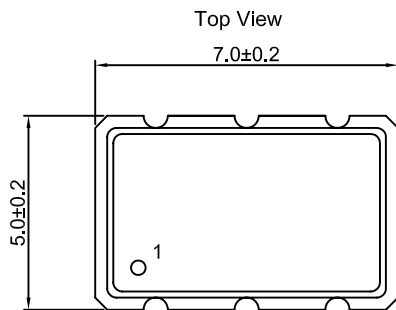
SatCom
Test equipment
Network clock
Base station

Description

The XO7500AJ_LVPECL series is designed for applications where exceptional frequency stability and timing is required. It has both excellent temperature performance and short term stability. These characteristics make it an excellent choice for timing applications.

Mechanical Drawing & Pin Connections

Drawing No: MD160041-4



Pin Connection

| | |
|-------|----------------|
| Pad 1 | OE |
| Pad 2 | N.C. |
| Pad 3 | Ground |
| Pad 4 | Output |
| Pad 5 | Complementary |
| Pad 6 | Supply Voltage |

Unit in mm
1mm = 0.0394 inches

Land Pattern



Specifications

| Oscillator Specification | Sym | Condition | Value | | | Unit | Note |
|---------------------------------------------|------------------|------------------------|------------------------------------------------------------------------------------------------------------|------|----------|--------|--------------------------|
| | | | Min. | Typ. | Max. | | |
| Frequency Range | F _{nom} | | 13.5 | | 50 | MHz | |
| | | | | 65 | | 220 | MHz |
| RF Output | | | | | | | |
| Signal Waveform | | | LVPECL | | | | |
| Level | | Logic " High " , " 1 " | Vdd-1.03 | | Vdd-0.88 | V | |
| | | Logic " Low " , " 0 " | Vdd-1.81 | | Vdd-1.62 | V | |
| Load | | | 50 ohm into Vdd-2.0V or Thevenin equivalent | | | Ω | |
| Duty Cycle | | | 50% ± 5% | | | | |
| Output Voltage Swing | | Single end | 400 | | | mV | |
| Rise Time / Fall Time | | 20%↔80% | | 0.2 | 0.4 | ns | |
| Output Enable/Disable Function | | Enable | 70%(min.) of Vdd to enable output Enable time:10msec(max.) | | | | |
| | | Disable | 30%(max.) of Vdd to disable output Disable current:10uA(max.) (OE<=0.3V), Disable time:0.2usec(max.) | | | | |
| Power Supply | | | | | | | |
| Supply Voltage | Vdd | ± 10% | | 3.3 | | V | |
| Current consumption | | | | 38 | 60 | mA | |
| Start-up Time | | | | 1 | 5 | ms | |
| Frequency Stability | | | | | | | |
| Versus Operating Temperature Range | | | | | | ppm | See ordering information |
| Aging 1 st Year | | at 25°C | | | ±3 | ppm | |
| Phase Noise | | 100Hz(50MHz) | | -104 | | dBc/Hz | |
| | | (156.25MHz) | | -93 | | dBc/Hz | |
| | | 1KHz(50MHz) | | -134 | | dBc/Hz | |
| | | (156.25MHz) | | -123 | | dBc/Hz | |
| | | 10KHz(50MHz) | | -147 | | dBc/Hz | |
| | | (156.25MHz) | | -140 | | dBc/Hz | |
| | | 100KHz(50MHz) | | -153 | | dBc/Hz | |
| | | (156.25MHz) | | -149 | | dBc/Hz | |
| | | 1MHz(50MHz) | | -152 | | dBc/Hz | |
| | | (156.25MHz) | | -157 | | dBc/Hz | |
| | | (156.25MHz) | | -157 | | dBc/Hz | |
| Environmental, Mechanical Conditions | | | | | | | |
| Storage Temperature | | | -55°C to + 150°C | | | | |



Ordering Information

| | | | | | | |
|-----------------|---|-------|---|----|----|----|
| XO7500AJ_LVPECL | - | 20MHz | - | x | x | x |
| Group | | | | 01 | 02 | 03 |

For example, XO7500AJ_LVPECL-20MHz-1-1-1 denotes the XO has the following specifications:

Temperature Range: -10°C to +70C
 Stability Over Temperature: ±25ppm
 Supply Voltage: 2.5V
 Frequency: 20MHz

| option 01 | Temperature Range |
|-----------|-------------------|
| Code | Specification |
| 1 | -10°C to +70°C |
| 2 | -40°C to +85°C |
| | |

| option 02 | Frequency Stability (If non-standard, please contact DEI) |
|-----------|--------------------------------------------------------------|
| Code | Specification |
| 1 | ±25ppm |
| 2 | ±50ppm |
| 3 | ±100ppm |

| option 03 | Supply Voltage |
|-----------|----------------|
| Code | Specification |
| 1 | 2.5V |
| 2 | 3.3V |