

Features

- Ultra Stable
- Wide Temperature Range
- Small Packaging(12.6×20.2mm)

Applications

- GPS/GNSS
- Instrumentations
- Wireless Communic



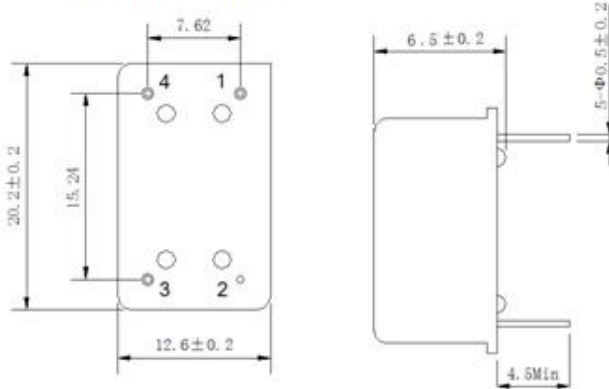
BT1220 Series Specifications

| Parameter | Value | | | Unit | Conditions | |
|-----------------------------|-----------------|------|------|--------|---------------------------|--|
| | Min. | Typ. | Max. | | | |
| Supply Voltage | - | 3.3 | - | V | | |
| | - | 5 | - | V | | |
| Supply Current | - | - | 45 | mA | | |
| Frequency Range | 10 ~ 120 | | | MHz | | |
| Nominal Frequency | 50,100 | | | MHz | | |
| Initial Frequency Tolerance | ±0.3 | ±0.5 | ±1 | ppm | At shipment, nominal EFC, | |
| Freq. Stability Vs. Temp. | ±0.1 | ±1 | ±2 | ppm | -20°C~+70°C | |
| | ±0.1 | ±1 | ±2 | | -40°C~+70°C | |
| | ±0.28 | ±1 | ±2 | ppm | -40°C~+85°C | |
| Sine wave | Output Level | 7 | - | - | dBm | |
| | Harmonics | - | - | -30 | dBc | |
| | Spurious | - | - | -70 | dBc | |
| | Load | - | 50 | - | Ω | |
| CMOS | V _{OH} | 2.4 | - | - | V | CMOS Output, Load=15pf |
| | V _{OL} | - | - | 0.4 | V | CMOS Output, Load=15pf |
| | Duty Cycle | 45 | - | 55 | % | (V _{OH} - V _{OL})/2 |
| | Rise/Fall Edge | - | - | 6 | ns | CMOS Output, Load=15pf |
| | Load | - | - | 15 | pf | |
| RMS Jitter(By E5052B) | 20 | - | 40 | ps | 12KHz~5MHz | |
| Supply Sensitivity | - | - | ±0.1 | ppm | V _{cc} ±5% | |
| Load Sensitivity | - | - | ±0.2 | | Load±5% | |
| Aging/ First Year | - | - | ±1.0 | | Standard | |
| SSB Phase Noise @100MHz | - | -77 | -75 | dBc/Hz | Offset 10Hz | At +25°C |
| | - | -110 | -110 | | Offset 100Hz | |
| | - | -142 | -140 | | Offset 1kHz | |
| | - | -158 | -155 | | Offset 10kHz | |
| | - | -163 | -158 | | Offset 100kHz | |
| Control Voltage Range | 1.5 ± 1.0 | | | V | | |
| Frequency Turning Range | ±3 | ±5 | ±7 | ppm | | |
| Tuning Slope | Positive | | | | | |
| Non-linearity | - | - | 10 | % | | |

| Environmental Conditions | |
|-----------------------------|----------------|
| Operating Temperature Range | -40°C ~ +85°C |
| Storage Temperature Range | -55°C ~ +125°C |

Outline Dimension & Pin Connections

Bottom View



Pin Connections

| | | |
|------|------|-----------------|
| Pin1 | Vcon | Control Voltage |
| Pin2 | GND | Ground Case |
| Pin3 | Fout | Output |
| Pin4 | Vdd | Power Supply |

Note:

Leave pin 1 unconnected if vcon is not used.

Maximum Ratings

| Parameter | Symbol | Rating |
|-----------------|--------|----------------|
| Supply Voltage | Vdd | -0.5V / 6V |
| Control Voltage | Vcon | 0V / 3V |
| ESD, HBM/CDM/MM | | 4KV/ 2KV/ 200V |

Reliability

| Parameter | Condition |
|-------------------------|---|
| Temperature Stress Test | IEC60068, GJB360B |
| Mechanical Stress Test | IEC60068, GJB360B |
| EMC Test (ESD) | IEC61000, JESD22 |
| Solder Ability | EIA/JESD22-B102-C |
| RoHS | RHOS Directive 2011/65/EU Annex II Recasting 2002/95/EC |

Ordering Guide

BT 1220 H X X X XXX X X XX.XX

