

- Industry-standard 5 x 3.2 x 1.2mm 4 pad SMD package
- Frequency range 625kHz to 50.0MHz
- CMOS/TTL Output
- Supply Voltage 1.8, 2.5, 3.3 or 5.0VDC
- Integrated Phase Jitter 1ps maximum



DESCRIPTION & APPLICATIONS

G534 VCXOs are packaged in the industry-standard 5 x 3.2 x 1.2mm, 4 pad SMD package. G series VCXOs use fundamental mode crystal oscillators for low phase noise. Applications include phase lock loop, SONET/ATM, set-top boxes, MPEG, audio/video modulation, video game consoles, Fibre Channel, FPGAs, Data Acquisition and HDTV.

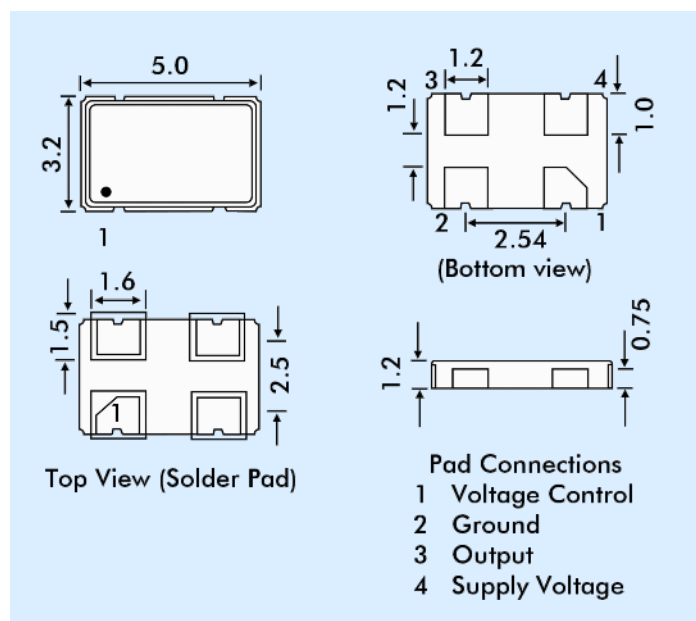
SUPPLY VOLTAGE-DEPENDENT SPECIFICATION

| Input Voltage (Vdd): | Vdd = +1.8VDC ±5% | Vdd = +2.5VDC ±5% | Vdd = +3.3VDC ±5% | Vdd = +5.0VDC ±10% |
|-----------------------------|------------------------------------------|------------------------------------------|------------------------------------------|-----------------------------------------|
| Frequency Range*: | 16.0MHz ~ 50.0MHz | 0.625MHz ~ 50.0MHz | 0.625MHz ~ 50.0MHz | 1.0MHz ~ 50.0MHz |
| Output Waveform: | TTL/CMOS | TTL/CMOS | TTL/CMOS | TTL/CMOS |
| Initial Frequency Accuracy: | To tune to nominal fr. with Vc=0.9±0.15V | To tune to nominal fr. with Vc=1.25±0.2V | To tune to nominal fr. with Vc=1.65±0.2V | To tune to nominal fr. with Vc=2.5±0.2V |
| Output Logic HIGH '1' | TTL: | ----- | 2.4V (min.) | 2.4V (min.) |
| | CMOS: | 1.62V (min.) | 2.25V (min.) | 2.97V (min.) |
| Output Logic LOW '0' | TTL: | ----- | 0.4V (max.) | 0.4V (max.) |
| | CMOS: | 0.183V (max.) | 0.25V (max.) | 0.33 (max.) |
| Frequency Deviation Range: | Standard: ±80ppm (min.) | Standard: ±80ppm (min.) | Standard: ±80ppm (min.) | Std: ±80ppm (min.) ±200ppm available |
| Control Voltage Centre | 0.9VDC | 1.25VDC | 1.62VDC | 2.5VDC |
| Control Voltage Range: | 0V to 1.8V | 0.25V to 2.25V | 0.3V to 3.0V | 0.5V to 1.5V |

GENERAL SPECIFICATION

| | |
|-------------------------------------|---------------------------------------------------------------------------------------------|
| Frequency Stability: | See table |
| Frequency Change vs. Input Voltage: | ±5ppm max. (V _{DD} ±5%) |
| Input Voltage: | +1.8V±5%, +2.5V±5%, +3.3V±5% or 5.0V±10% |
| Output Load | TTL: 2TTL gates CMOS: 15pF |
| Rise/Fall Time | TTL: 6ns max, 4ns typ. (0.4V to 2.4V) CMOS: 6ns max, 4ns typ. (20%~80% V _{DD}) |
| Duty Cycle: | 50±10% standard, 50±5% option |
| Integrated Phase Jitter: | 1ps maximum (12kHz to 20MHz) |
| Period Jitter RMS: | 2.0ps typical |
| Period Jitter Peak to Peak: | 14ps |
| Start-up time: | 10ms max., 3ms typical |
| Current Consumption: | 10 to 45mA, frequency dependant (27MHz: 10mA typical at 3.3V, 20mA typical at 5.0VDC) |
| Linearity: | 6% typical, 10% maximum |
| Modulation Bandwidth: | 10kHz min., measured at V _{cont} = 1.65V or 2.5V. |
| Input Impedance: | 1MΩ typical |
| Slope Polarity: | Monotonic and Positive, increasing control voltage increases output frequency. |
| Ageing: | ±3ppm per year maximum |
| RoHS Status: | RoHS Compliant and lead (Pb) free |

OUTLINE & DIMENSIONS



PHASE NOISE

| | | | | | | | |
|------------------------|---------|-----------|------------|------------|------------|------------|------------|
| 27.0MHz 3.3V supply | Offset: | 10Hz | 100Hz | 1kHz | 10kHz | 100kHz | 1MHz |
| | | -40dBc/Hz | -104dBc/Hz | -132dBc/Hz | -147dBc/Hz | -152dBc/Hz | -150dBc/Hz |

FREQUENCY STABILITY OVER OPERATING TEMPERATURE RANGE PART NUMBER CODES

| Stability | ±25ppm | ±50ppm | ±100ppm |
|---------------------------------|--------|--------|---------|
| Commercial 'C' -10° to +70°C | A | B | C |
| Industrial 'I' -40° to +85°C | D | E | F |

PART NUMBERING PROCEDURE

Example = 3G534B-80N-27.000

