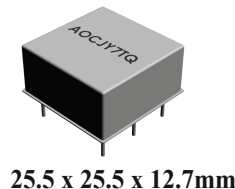


Ultra-Low Phase Noise OCXO

AOCJY7TQ



25.5 x 25.5 x 12.7mm

FEATURES:

- Exceptional Close to the carrier Maximum Phase Noise of -155dBc/Hz @ 1kHz & -170dBc/Hz @ 10kHz offset from 100.0 MHz Carrier
- SC-Cut, High “Q” resonator based design
- 100.0MHz carrier frequency
- Excellent Frequency Stability of ± 50.0 ppb over the operating temperature range of -40°C to +70°C
- Tuned Sinewave output into a 50Ω load
- Industry Standard, 25.5 x 25.5 x 12.7mm RoHS compliant & Pb free package

APPLICATIONS:

- COTS Military & Industrial Radios & Timing Circuits
- Cellular Infrastructure
- Radar Systems
- Test & Measurement Equipment
- GPS Tracking with precision hold-over accuracy
- WiMax / WLAN
- Precision primary frequency reference clocks

STANDARD SPECIFICATIONS:

Maximum Rating

| Parameters | Rating |
|---------------------------|---------------|
| Storage Temperature Range | -55 to +125°C |
| Supply Voltage | -0.3 to 15V |
| Control Voltage | 0 to 5V |
| ESD, HBM/CDM/MM | 2kV/1kV/200V |

| Parameters | Minimum | Typical | Maximum | Units | Notes |
|---|--------------------------|----------|---------|---------|-------------------------------------|
| Frequency (Fc) | | 100.000 | | MHz | |
| Initial Frequency Tolerance (@+25°C) at shipping | | | ±300 | ppb | |
| Warm-up Time (@+25°C) | | | 5 | minutes | with accuracy of ±100 ppb |
| Frequency Stability Options (Ref. to Frequency @+25°C) | | | | | |
| -40°C to +70°C | | | ±50 | ppb | Option “5” |
| -40°C to +70°C | | | ±100 | ppb | Option “1” |
| -40°C to +85°C | | | ±200 | ppb | Option “2” |
| Frequency Stability vs. Supply Voltage Change (Vdd±5%) | | | ±10 | ppb | |
| Frequency Stability vs. Load Change (Load±5%) | | | ±10 | ppb | |
| Aging per Day (after 30 days of operation) | | | ±5 | ppb | |
| Aging per Year (after 30 days of operation) | | | ±500 | ppb | |
| Supply Voltage (Vdd) | +11.4 | +12.0 | +12.6 | V | |
| Power Consumption | During Warming-up | | 4.5 | W | |
| | Steady@+25°C & still air | | 1.5 | W | |
| Control Port (Applicable for Voltage Controlled version only) | | | | | |
| Control Voltage Range (Vc) | +0 | +2.5 | +5 | V | |
| Center Control Voltage (Vc) | | +2.5 | | V | To be with-in ±300 ppb of Fc @ 25°C |
| Frequency Tuning Range | | ±1000 | | ppb | |
| Tuning Slope | | Positive | | | |
| Linearity | | | ±10 | % | |
| Port Impedance | 50 | | | kΩ | |

Ultra-Low Phase Noise OCXO

AOCJY7TQ



25.5 x 25.5 x 12.7mm

STANDARD SPECIFICATIONS:

(Continued)

| Parameters | Minimum | Typical | Maximum | Unites | Notes |
|---|---------|---------|---------|--------|----------------|
| Phase Noise* (100MHz carrier frequency @25°C): | | <-95 | -93 | dBc/Hz | Offset @10Hz |
| | | <-126 | -125 | | Offset @100Hz |
| | | <-161 | -155 | | Offset @1kHz |
| | | -171 | -170 | | Offset @10kHz |
| | | -173 | -170 | | Offset @100kHz |
| | | -174 | -170 | | Offset @1MHz |
| | | -173 | -170 | | Offset @10MHz |
| | | -174 | -170 | | Offset @20MHz |
| RMS Jitter (12kHz to 20MHz) | | 20 | 40 | fs | |
| Sine Wave Output | | | | | |
| Output Level | 8 | | | dBm | |
| Harmonics | | | -30 | dBc | |
| Spurious | | | -70 | dBc | |
| Load | | 50 | | Ω | |

* Close to carrier phase noise is a few dB better in fixed clock configuration than the voltage controlled configuration

PART IDENTIFICATION:

AOCJY7TQ - - 100.000MHz -

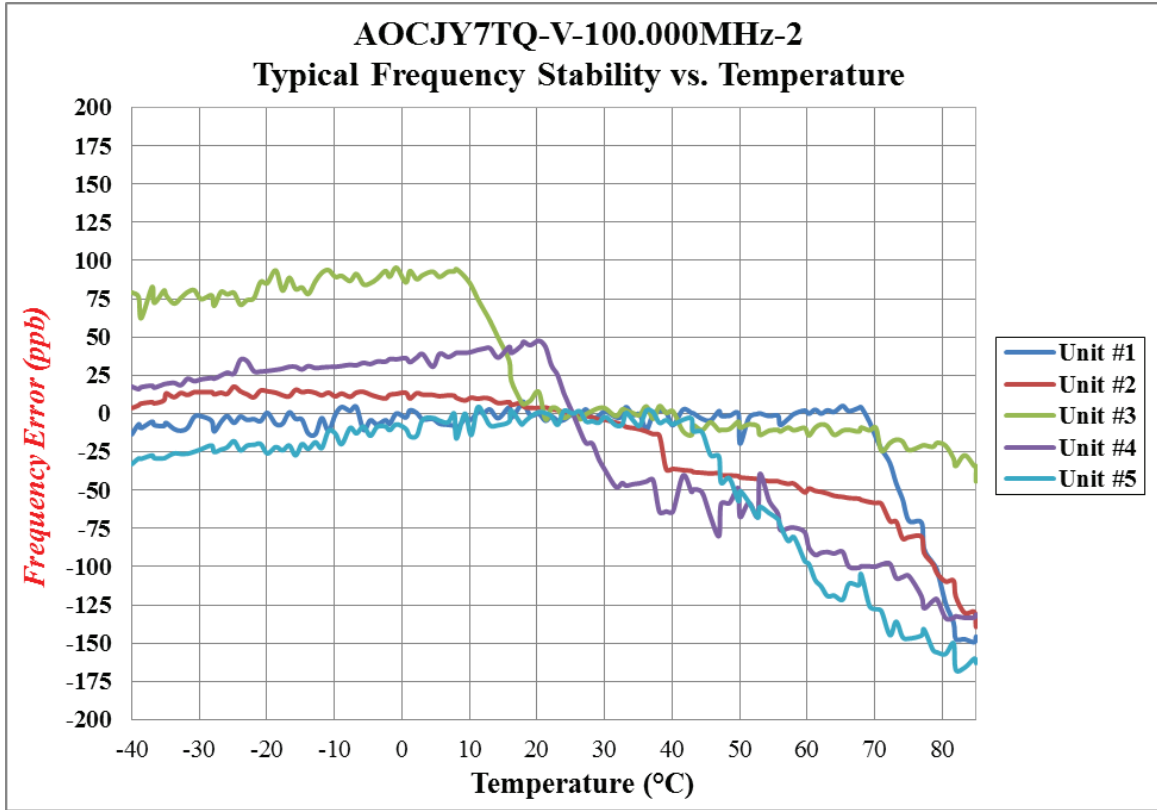
| Fixed Clock or Voltage Controlled |
|-----------------------------------|
| X = Fixed Clock |
| V = Voltage Controlled |

| Freq. Stability over Operating Temp. |
|--------------------------------------|
| 5: ±50ppb |
| 1: ±100ppb |
| 2: ±200ppb |

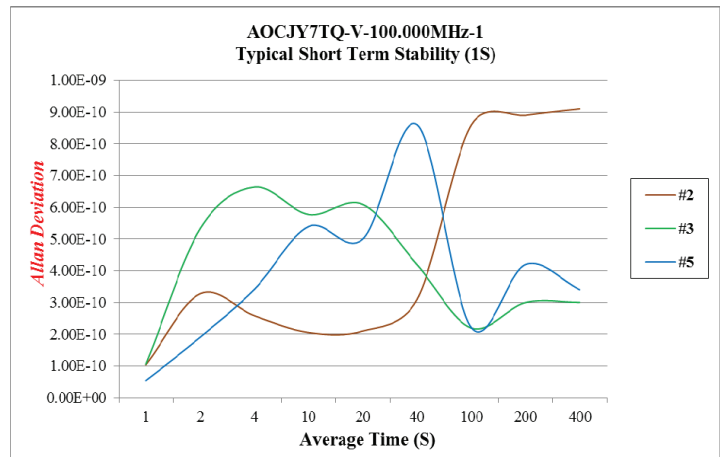
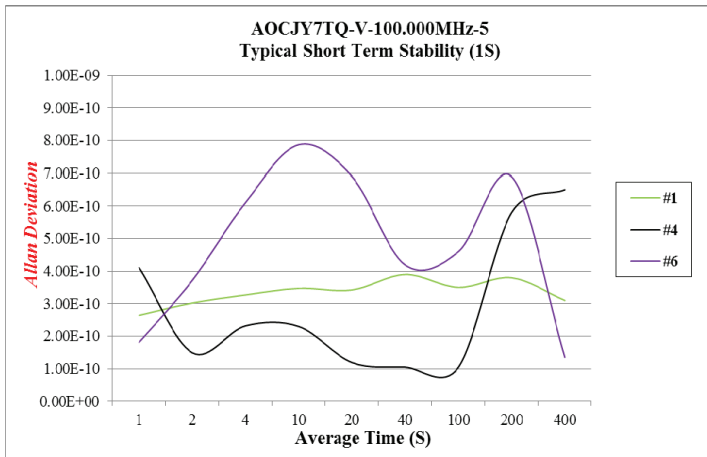


25.5 x 25.5 x 12.7mm

TYPICAL FREQUENCY STABILITY VS. TEMPERATURE



TYPICAL SHORT TERM STABILITY



Ultra-Low Phase Noise OCXO

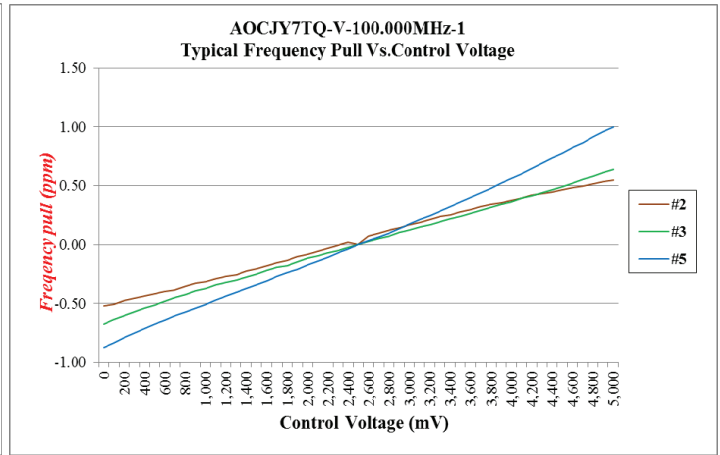
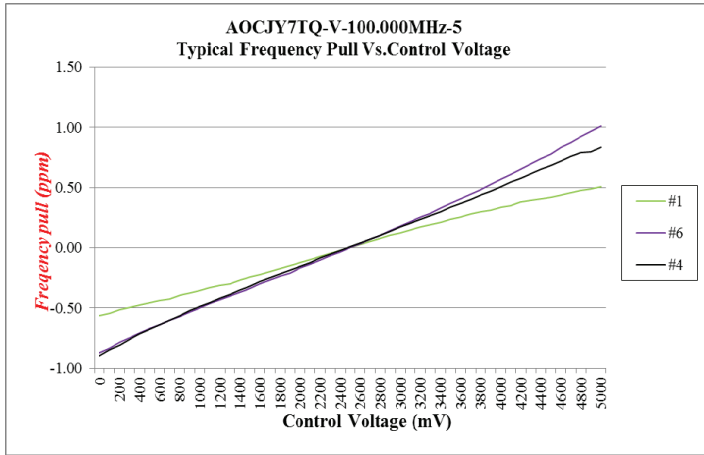


25.5 x 25.5 x 12.7mm

AOCJY7TQ

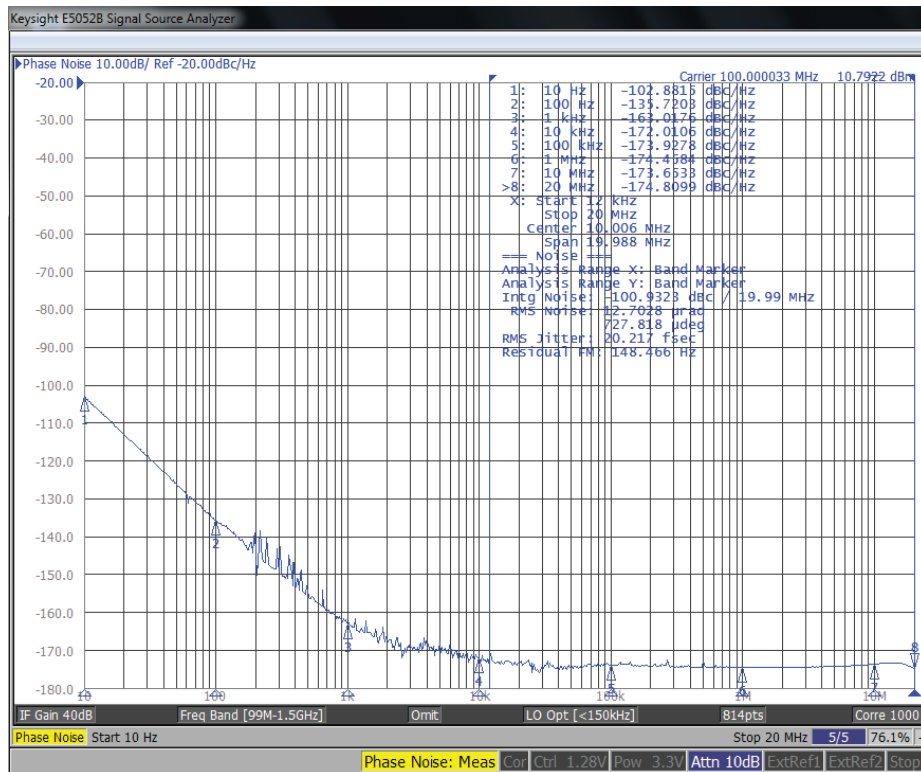


TYPICAL FREQUENCY PULL VS. CONTROL VOLTAGE



TYPICAL PHASE NOISE

100.00 MHz Carrier



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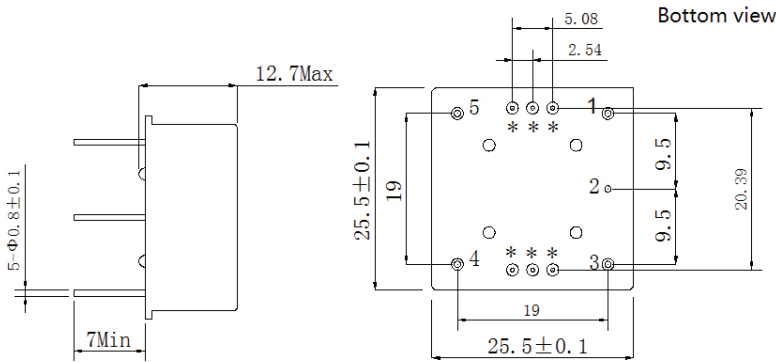
Ultra-Low Phase Noise OCXO

AOCJY7TQ

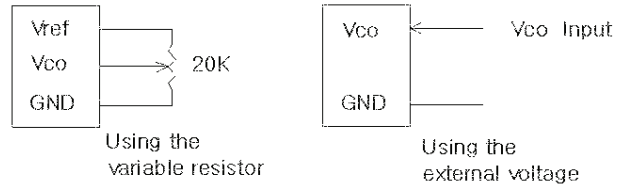


25.5 x 25.5 x 12.7mm

OUTLINE DIMENSION:



Reference Connection of Voltage Control Circuit



| Pin | Function |
|-----|----------------------------|
| 1 | RF Output |
| 2 | GND, Case |
| 3 | Vc (see Note 2 below) |
| 4 | Vref (See Note 3 below) |
| 5 | Vdd |

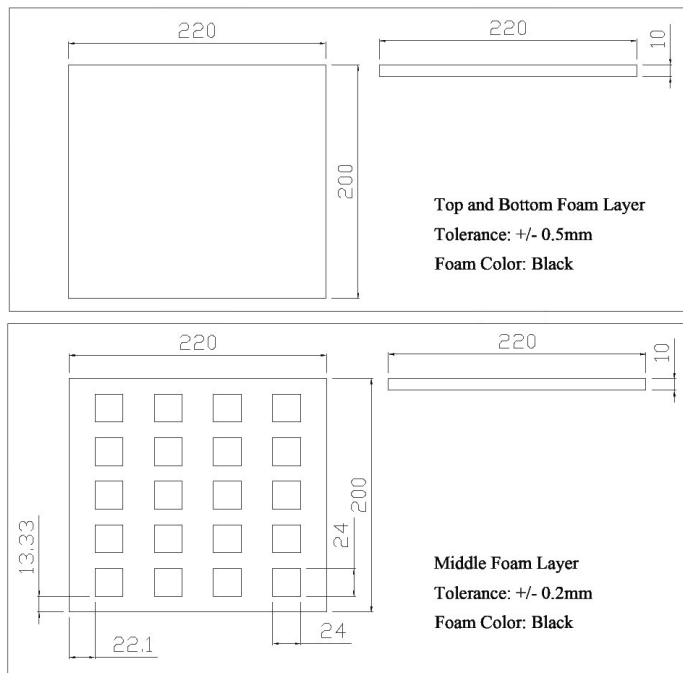
Notes:

1. The pins with "*" are for factory testing purpose.
2. Please leave pin 3 not connected if Vc is not used.
3. Please leave pin 4 not connected if Vref is not used.

Dimensions: mm

TAPE & REEL:

20pcs/ ESD Foam Tray



Dimensions: mm

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