# ULTRA STABLE OCXO

**MODEL: SOXO20BF10MAHHB**

## FEATURES

**High Stability (0.5ppb)**

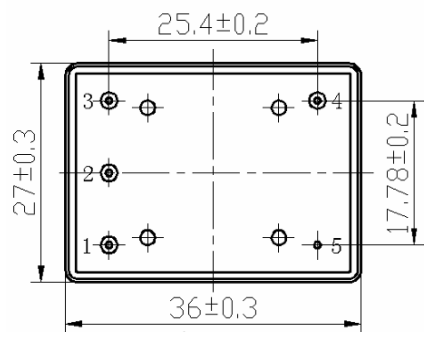
**Low Aging (0.1ppb/day)**

**Miniature Package (36mm×27mm×13mm)**

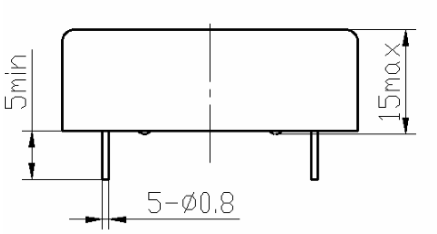
## ELECTRONIC PARAMETERS

| Parameters | | Conditions | Min. | Typ | Max. | Units |
|---|---|---|---|---|---|---|
| Nominal Frequency | | — | | 10.000 | | MHz |
| Supply voltage | | — | 4.75 | 5 | 5.25 | V |
| Package size | | — | | 36*27*15 | | mm |
| Power consumption | | During warm up | — | — | 5 | Watts |
| | | Steady state @ 25℃ | — | — | 2 | Watts |
| Freq. stability vs. load | | $C_L$ ±10% | — | — | ±0.3 | ppb |
| Freq. stability vs. supply voltage | | $V_{DD}$ ±5% | — | — | ±0.3 | ppb |
| Freq. stability vs. temperature | | -40 to +70 ℃ | — | — | ±0.5 | ppb |
| Freq. retrace | | Power on after 15min, referenced to Freq. before power off 24h. | — | — | ±10 | ppb |
| Warm up time | | 15 min power on @25℃ vs. 1 hour power on | — | — | ±10 | ppb |
| Initial tolerance | | Vcont is NC @25℃ | — | — | ±0.05 | ppm |
| Short Term Stability | | Test @25℃ | — | 5E-12 | 1E-11 | /s |
| Aging | per day | After 30 days of continues operation | — | ±0.1 | ±0.2 | ppb |
| | per 1st year | | — | — | ±10 | ppb |
| | per 10 years | | — | — | ±0.05 | ppm |
| Output wave | | — | | LVTTL | | — |
| Output load | | — | — | 15 | — | pF |
| Output level | | — | | “1” ≥2.8 | | V |
| | | | | “0” ≤0.3 | | |
| Rise/fall time | | — | — | — | 6 | ns |
| Duty cycle | | — | 45 | — | 55 | % |
| Pull range | | Vcont=0 to 3.3V | 0.5 | — | — | ppm |
| Slope | | — | | positive | | — |
| Operating temperature range | | | -40 | — | 70 | ℃ |
| Storage temperature range | | | -55 | — | 85 | ℃ |
| Phase noise | @ 10Hz offset | @ 10MHz | — | — | -120 | dBc/Hz |
| | @ 100Hz offset | | — | — | -140 | dBc/Hz |
| | @ 1kHz offset | | — | — | -150 | dBc/Hz |
| | @ 10kHz offset | | — | — | -155 | dBc/Hz |

## PACKAGE



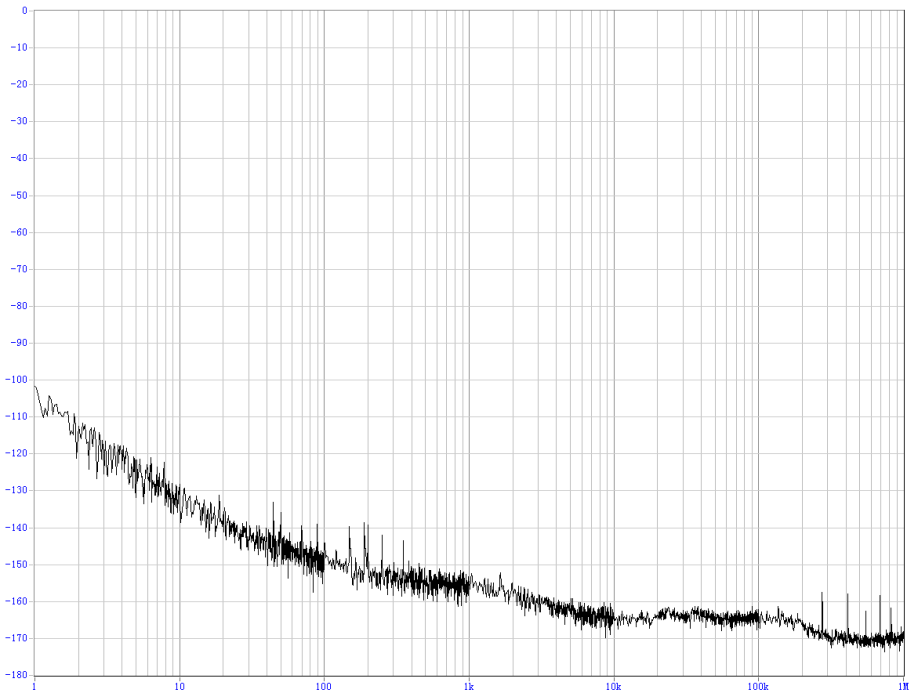

BOTTOM VIEW




## PIN DESCRIPTION

1. Control Voltage Input; **Vcont**
2. No Connection / Reference Voltage; **NC/Vref**
3. Supply Voltage; **Vdd**
4. RF Output; **OUT**
5. Ground Case; **GND**

## TYPICAL SSB PHASE NOISE




**Notes: Consult factory about other frequencies or special requirement.**