

|                                                                           |                |           |                  |
|---------------------------------------------------------------------------|----------------|-----------|------------------|
| <b>Specification</b>                                                      | <b>AXIOM60</b> | Issue: 06 | Date: 2005-07-15 |
| <b>Oscillator type : Miniature OCXO with Stratum III stability option</b> |                |           |                  |

| Parameter                                                       | min.                  | typ.        | max.                    | Unit              | Condition                                                  |
|-----------------------------------------------------------------|-----------------------|-------------|-------------------------|-------------------|------------------------------------------------------------|
| Frequency range                                                 | 10                    |             | 40                      | MHz               |                                                            |
| Standard frequencies                                            | 10.0 / 12.8 / 19.440  |             |                         | MHz               |                                                            |
| Frequency stability                                             |                       |             |                         | ppm               |                                                            |
| Initial tolerance                                               |                       |             | ± 500                   | ppb               | @+25°C, V <sub>C</sub> = center                            |
| vs. temperature                                                 |                       |             | ± 280<br>± 200<br>± 100 | ppb<br>ppb<br>ppb | Option II = “S3”<br>Option II = “200”<br>Option II = “100” |
| operating temperature range                                     | -20<br>-10            |             | +70<br>+60              | °C<br>°C          | Option II “S3” & “200”<br>Option II = “100”                |
| vs. supply voltage variation                                    |                       | ± 10        |                         | ppb               |                                                            |
| vs. load change                                                 |                       | ± 10        |                         | ppb               |                                                            |
| 24 hour drift <sup>3</sup>                                      |                       |             | ± 40                    | ppb               | Option II = “S3”                                           |
| Long term stability per year<br>(overall) <sup>2</sup> 15 years |                       |             | ± 0.5<br>± 4.6          | ppm/y<br>ppm      | Option II “100” & “200”<br>Option II = “S3”                |
| Frequency adjustment range                                      |                       |             |                         |                   |                                                            |
| Electronic Frequency Control (EFC) <sup>4</sup>                 | ± 2                   |             |                         | ppm               | N.A. for Option II= “S3”                                   |
| EFC voltage <sup>4</sup> V <sub>C</sub>                         | 0.15<br>0.25          | 1.65<br>2.5 | 3.15<br>4.75            | V<br>V            | Option I = “33”<br>Option I = “50”                         |
| EFC slope (Δf / ΔV <sub>C</sub> )                               | Positive              |             |                         |                   |                                                            |
| EFC linearity                                                   |                       | 10          |                         | %                 |                                                            |
| EFC input impedance                                             | 100                   |             |                         | kΩ                |                                                            |
| RF output                                                       |                       |             |                         |                   |                                                            |
| Signal waveform                                                 | HCMOS                 |             |                         |                   |                                                            |
| Load                                                            | 15                    |             |                         | pF                |                                                            |
| Rise & decay time                                               |                       |             | 10                      | ns                |                                                            |
| Symmetry (duty cycle)                                           | 40                    |             | 60                      | %                 | @ V <sub>S</sub> /2                                        |
| Warm-up time                                                    |                       |             | 2                       | min               | Δf <sub>final</sub> /f <sub>0</sub> < ±0.1 ppm             |
| Supply voltage V <sub>S</sub>                                   | 3.13<br>4.75          | 3.3<br>5.0  | 3.47<br>5.25            | V                 | Option I = “33”<br>Option I = “50”                         |
| Current consumption<br>(steady state @ +25°C)                   |                       | 150<br>100  | 200<br>150              | mA<br>mA          | Option I = “33”<br>Option I = “50”                         |
| Current consumption (warm-up)                                   |                       |             | 500<br>350              | mA<br>mA          | Option I = “33”<br>Option I = “50”                         |
| Operable temperature range                                      | -30                   |             | +75                     | °C                |                                                            |
| Storage temperature range                                       | -40                   |             | +85                     | °C                |                                                            |
| Enclosure (see drawing) (LxWxH)                                 | 14.4 x 9.5 x 8.5 max. |             |                         | mm                | CO 27 (IEC 61837)                                          |
| Weight                                                          |                       |             | 5                       | gram              |                                                            |
| Packing                                                         | Tape & Reel           |             |                         |                   |                                                            |
| ESD Sensitivity                                                 | 1500                  |             |                         | V                 | HBM as in IEC 61000-4-2                                    |

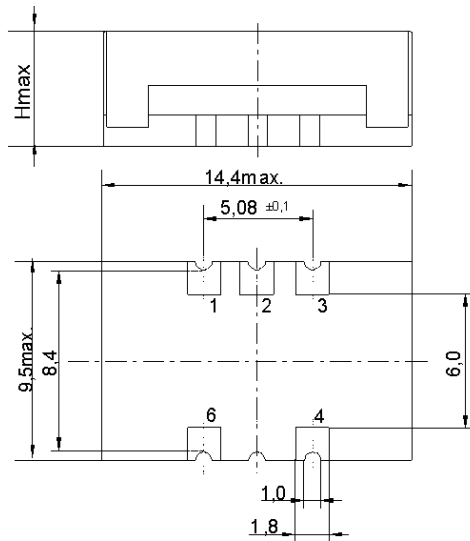
**Notes:**

1. Terminology and test conditions are according to IEC standard IEC60679-1, unless otherwise stated
2. Overall frequency stability = temp.stability + supply & load change + aging
3. 24 hours drift including V<sub>S</sub> ± 5%, ±2.78°C and daily aging
4. No voltage control function (EFC) provided in Stratum III version (Option II = "S3")

**Ordering Code:**

| Model (Specification) | Option I:<br>Supply Voltage | Option II:<br>Stability | Frequency [MHz] |
|-----------------------|-----------------------------|-------------------------|-----------------|
| AXIOM60               | 33                          | 100                     | 12.800          |

## Enclosure drawing



### Pin connections

| Pin # | Symbol                  | Function                                |
|-------|-------------------------|-----------------------------------------|
| 1     | V <sub>C</sub> or N.C.* | Voltage Control (EFC) or No Connection* |
| 2     | I.C.                    | Internal Connection                     |
| 3     | GND                     | Ground                                  |
| 4     | RF OUT                  | RF Output                               |
| 6     | V <sub>S</sub>          | Supply Voltage                          |

### Note:

For Option II = "S3":

Pin 1 = N.C. (No Connection)

## Environmental conditions

| Test                                            | IEC 60068 Part ... | IEC 60679-1 clause ... | Test conditions                                                               |
|-------------------------------------------------|--------------------|------------------------|-------------------------------------------------------------------------------|
| Visual inspection, dimensions                   |                    | 4.3                    | Enclosure styles as in IEC 60679-3 or 61837, if applicable                    |
| Sealing tests (if applicable)                   | 2-17               | 4.6.2                  | Gross leak: Test Qc, Fine leak: Test Qk                                       |
| Solderability<br>Resistance to soldering heat   | 2-20<br>2-58       | 4.6.3                  | Test Ta (235 ± 5)°C Method 1<br>Test Tb Method 1A, 5s                         |
| Shock*                                          | 2-27               | 4.6.8                  | Test Ea, 3 x per axes 100g, 6 ms half-sine pulse                              |
| Bump*                                           | 2-29               | 4.6.6                  | Test Eb, 4000 bumps per Axes, 40g, 6 ms                                       |
| Free fall*                                      | 2-32               | 4.6.9                  | Test Ed procedure 1, 2 drops from 1m height                                   |
| Vibration, sinusoidal*                          | 2-6                | 4.6.7                  | Test Fc, 30 min per axes, 10 Hz - 55 Hz 0,75mm; 55 Hz - 2 kHz, 10g            |
| Rapid change of temperature                     | 2-14               | 4.6.5                  | Test Na, 10 cycles at extremes of operating temperature range                 |
| Dry heat                                        | 2-2                | 4.6.14                 | Test Ba, 16 h at upper temperature indicated by climatic category             |
| Damp heat, cyclic*                              | 2-30               | 4.6.15                 | Test Db variant 1 severity b), 55°C/95% r.H., 6 cycles                        |
| Cold                                            | 2-1                | 4.6.16                 | Test Aa, 2 h at lower temperature indicated by climatic category              |
| Climatic sequence*                              | 1-7                | 4.6.17                 | Sequence of 4.6.14, 4.6.15 (1 <sup>st</sup> cycle), 4.6.16, 4.6.15 (5 cycles) |
| Damp heat, steady state*                        | 2-3                | 4.6.18                 | Test Ca, 56 days                                                              |
| Endurance tests<br>- ageing<br>- extended aging |                    | 4.7.1<br>4.7.2         | 30 days @ 85°C, OCXO @25°C<br>1000h, 2000h, 8000h @85°C                       |