

|   |                |            |                  |
|---|----------------|------------|------------------|
| <b>Specification</b>  | <b>AXE1000</b> | Issue: 3.1 | Date: 2011-01-29 |
| <b>Oscillator type: Low Noise Crystal Oscillator (PXO) 1000 MHz</b> |                |            |                  |

| Parameter   | min.                        | typ. | max. | Unit   | Condition            |
|---|-----------------------------|------|------|--------|----------------------|
| <b>Nominal frequency</b>                          | 1000.00                     |      |      | MHz    | Note 2               |
| <b>Frequency stability</b>                        |                             |      |      | ppm    |                      |
| Initial tolerance                                 |                             |      | ±5   | ppm    | @25°C                |
| vs. operating temperature range                   |                             |      | ±50  | ppm    | Note 3               |
| operating temperature range                       | -20                         |      | +70  | °C     |                      |
| vs. supply voltage variation (pushing)            |                             |      | ±1   | ppm    | V <sub>S</sub> ±5%   |
| vs. load change                                   |                             |      | ±1   | ppm    | R <sub>L</sub> ±5%   |
| long term (aging) 1 <sup>st</sup> year            |                             |      | ±2   | ppm    | @ +25°C              |
| long term (aging) following years                 |                             |      | ±1   | ppm    | per year @ +25°C     |
| <b>Frequency adjustment range</b>                 |                             |      |      |        |                      |
| Electronic frequency control (EFC)                |                             | n.a. |      |        |                      |
| <b>RF output</b>                                  |                             |      |      |        |                      |
| Signal waveform                                   | Sine wave                   |      |      |        | R <sub>L</sub> = 50Ω |
| Output level                                      | +7                          | +11  |      | dBm    |                      |
| Harmonics   |                             | -50  | -40  | dBc    |                      |
| Sub-harmonics (multiples of 100 MHz)              |                             | -45  | -40  | dBc    |                      |
| Spurious  |                             |      | -80  | dBc    |                      |
| Phase noise                                       |                             | -140 | -135 | dBc/Hz | @ 10 kHz             |
|   |                             | -145 | -140 | dBc/Hz | @ 100 kHz            |
|   |                             | -147 | -145 | dBc/Hz | @ 1 MHz              |
| Start-up time                                     |                             | 10   | 20   | ms     |                      |
| <b>Supply voltage V<sub>S</sub></b>               | 11.4                        | 12   | 12.6 | V      |                      |
| <b>Current consumption</b> (steady state @ +25°C) |                             |      | 60   | mA     |                      |
| <b>Operable temperature range</b>                 | -40                         |      | +90  | °C     |                      |
| <b>Storage temperature range</b>                  | -55                         |      | +105 | °C     |                      |
| <b>Enclosure (see drawing) (LxWxH)</b>            | 54 x 40 x 19                |      |      | mm     | h = 2.0 mm           |
| <b>Weight</b>                                     |                             |      |      | gram   |                      |
| <b>Packing</b>                                    | Palette                     |      |      |        |                      |
| <b>Handling and Testing</b>                       | In accordance with AXAN-011 |      |      |        | www.axtal.com        |
| <b>Processing</b>                                 | In accordance with AXAN-012 |      |      |        | www.axtal.com        |

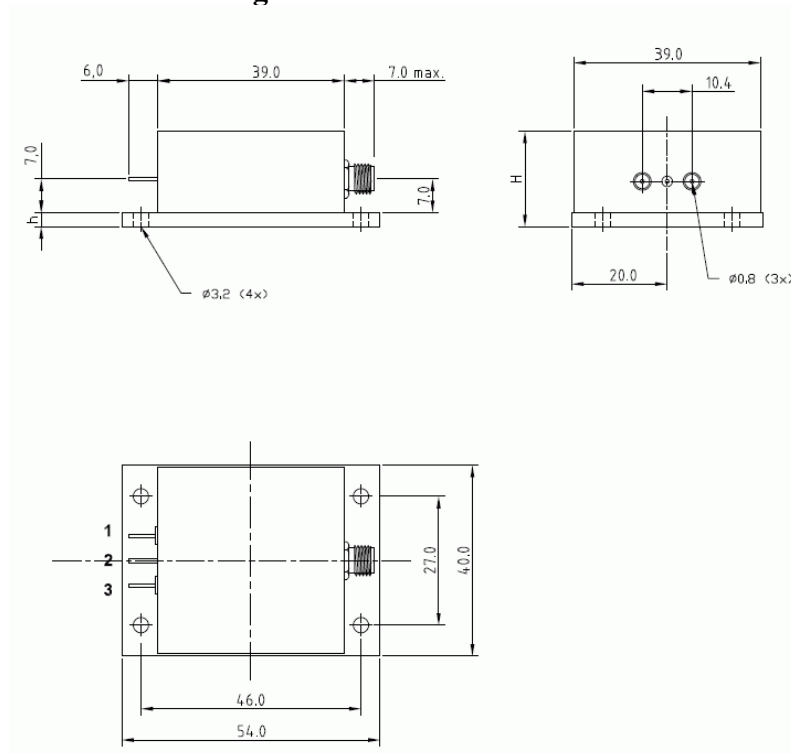
**Notes:**

1. Terminology and test conditions are according to IEC standard IEC60679-1, unless otherwise stated
2. Other frequencies on request
3. Other stabilities on request

**Ordering Code:**

| Model (Specification) | Frequency [MHz] |
|-----------------------|-----------------|
| AXE1000               | 1000.000        |

## Enclosure drawing



## Pin connections

| Pin# | Symbol         | Function       |
|------|----------------|----------------|
| 1    | N.C.           | No Connection  |
| 2    | GND            | Ground         |
| 3    | V <sub>S</sub> | Supply Voltage |
| SMA  | RF OUT         | RF Output      |

## Environmental conditions

| Test  | IEC 60068 Part ... | IEC 60679-1 clause ... | Test conditions  |
|---|--------------------|------------------------|--|
| Sealing tests (if applicable)                   | 2-17               | 4.6.2                  | Gross leak: Test Qc  |
| 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 6 axes 50G, 11 ms half-sine pulse                 |
| Vibration, sinusoidal*                          | 2-6                | 4.6.7                  | Test Fc, 30 min per axes, 10 Hz - 55 Hz 0,75mm; 55 Hz - 2 kHz, 10g |
| 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            |

\*Endurance test

## Revision History

| Rev. | Date<br>[dd.mm.yy] | Remarks   |
|------|--------------------|---|
| 1    | 12.12.2006         | First issue AXE1000-11  |
| 2    | 25.01.2008         | Freq. stability, temp. range & output level changed                   |
| 3    | 17.12.2010         | Freq. stability, RF output, phase noise & enclosure drawing changed   |
| 3.1  | 29.01.2011         | Package height H and thickness of base plate (h) changed: PCN11012901 |