AXTAL ADVANCED XTAL PRODUCTS

| Specification | AXLE114 | Issue: 01 | Date:2009-12-07 |
|---|---|---|---|

# Oscillator type : TCXO in gullwing SMD package

| Parameter | min. | typ. | max. | Unit | Condition |
|---|---|---|---|---|---|
| **Frequency range** | 10<br>10<br>1.25 | | 50<br>50<br>50 | MHz<br>MHz<br>MHz | Clipped Sine wave<br>Sine wave<br>HCMOS |
| **Frequency stability** | | | | ppm | |
| vs. temperature | ± 0.5 ppm to ± 5 ppm | | | ppm | See tables 1 & 2 |
| vs. supply voltage variation | | ± 0.1 | ± 0.3 | ppm | $V_S$ ± 5 % |
| vs. load change | | | ± 0.2 | ppm | Load ± 10 % |
| long term (aging) per year | | | ± 1 | ppm | @+40°C |
| **Frequency adjustment range** | | | | | |
| Mechanical (internal trimmer) | ± 3 | | | ppm | Option 1 = blank |
| Electronic Frequency Control (EFC) | ± 5 | | | ppm | Option 1 = "V" |
| EFC voltage $V_C$ | 0.15<br>0.5 | 1.65<br>2.5 | 3.15<br>4.5 | V<br>V | Option 2 = "3"<br>Option 2 = "5" |
| EFC slope ($\Delta f / \Delta V_C$) | positive | | | | |
| EFC input impedance | 100 | | | kΩ | |
| **RF output** | | | | | |
| Signal waveform | Clipped Sine wave<br>Sine wave<br>HCMOS | | | | Option 3 = "C"<br>Option 3 = "S"<br>Option 3 = "H" |
| Load | 10 kΩ \|\| 10 pF<br>50 Ω<br>15 pF | | | | Option 3 = "C"<br>Option 3 = "S"<br>Option 3 = "H" |
| Amplitude | 0.8<br>1.0 | | | V p-p<br>V p-p | Option 3 = "C" / 3.3 V<br>Option 3 = "C" / 5.0 V |
| | | 0<br>10 | | dBm<br>dBm | Option 3 = "S" (3.3 V)<br>Option 3 = "S" (5 V) |
| | According to relevant Logic Standard | | | | Option 3 = "H" |
| **Supply voltage $V_S$** | 3.15<br>4.75 | 3.3<br>5.0 | 3.45<br>5.25 | V<br>V | Option 2 = "3"<br>Option 2 = "5" |
| **Current consumption (Note 3)** | 2 ~ 10<br>12 ~ 30<br>15 ~ 40 | | | mA<br>mA<br>mA | Option 3 = "C"<br>Option 3 = "S"<br>Option 3 = "H" |
| **Storage temperature range** | -45 | | +90 | °C | |
| **Enclosure (see drawing) L x W x H** | 11.7 x 9.9 x 4.3 max. | | | mm | |
| **Packing** | Tape & reel | | | | |
| **Handling and Testing** | In accordance with AXAN-011 | | | | www.axtal.com |
| **Processing** | 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. All combinations of options might not be available. Please consult factory
3. Depending on frequency and supply voltage

## Frequency Stability over Temperature

Table 1

| Code4 | Stability |
|---|---|
| 05 | ± 0.5 |
| 10 | ± 1.0 |
| 15 | ± 1.5 |
| 20 | ± 2.0 |
| 25 | ± 2.5 |
| 30 | ± 3.0 |
| 35 | ± 3.5 |
| 50 | ± 5.0 |

Table 2

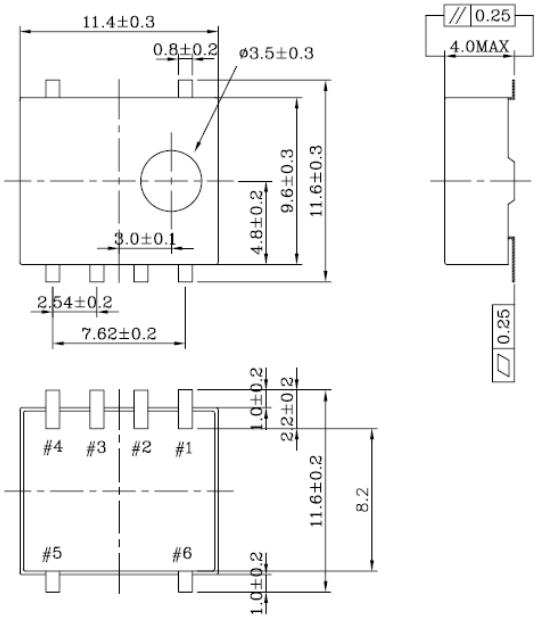
| Lower Temperature | | | Upper Temperature | |
|---|---|---|---|---|
| Code5 | Temp/°C | | Code5 | Temp/°C |
| 0 | 0 | | A | +50 |
| 1 | -10 | | B | +60 |
| 2 | -20 | | C | +70 |
| 3 | -30 | | D | +75 |
| 4 | -40 | | E | +80 |
| | | | F | +85 |

## Ordering Code:

| Part number | Option 1 | Option 2 | Option 3 | Option 4 | Option 5 | Frequency |
|---|---|---|---|---|---|---|
| | EFC | Supply Voltage | Output | Stability | Temp. range | [MHz] |
| **AXLE114** | _ or "V" | 5 or 3 | C, S, H | See tables 1 & 2 | | 10.000 |

**Example: AXLE114V-5-C-10-3D -10.000 MHz**

## Enclosure drawing:




### Pin connections

| Pin # | Symbol | Function |
|---|---|---|
| 1 | $V_S$ | Supply Voltage |
| 2 | $V_C$ | Voltage Control (EFC) |
| 3 | GND | Ground |
| 4 | RF OUT | RF Output |
| 5 | GND | Ground |
| 6 | GND | Ground |