**TCXOKSMD100M**
Temperature Controlled Crystal Oscillator

## Features

Frequency 100 MHz
6 dBm min.  50 ohm sine wave output
Less than +/- 1 ppm stability
-40C to 85C
Surface Mount Package
-150 dBc/Hz typical Noise Floor

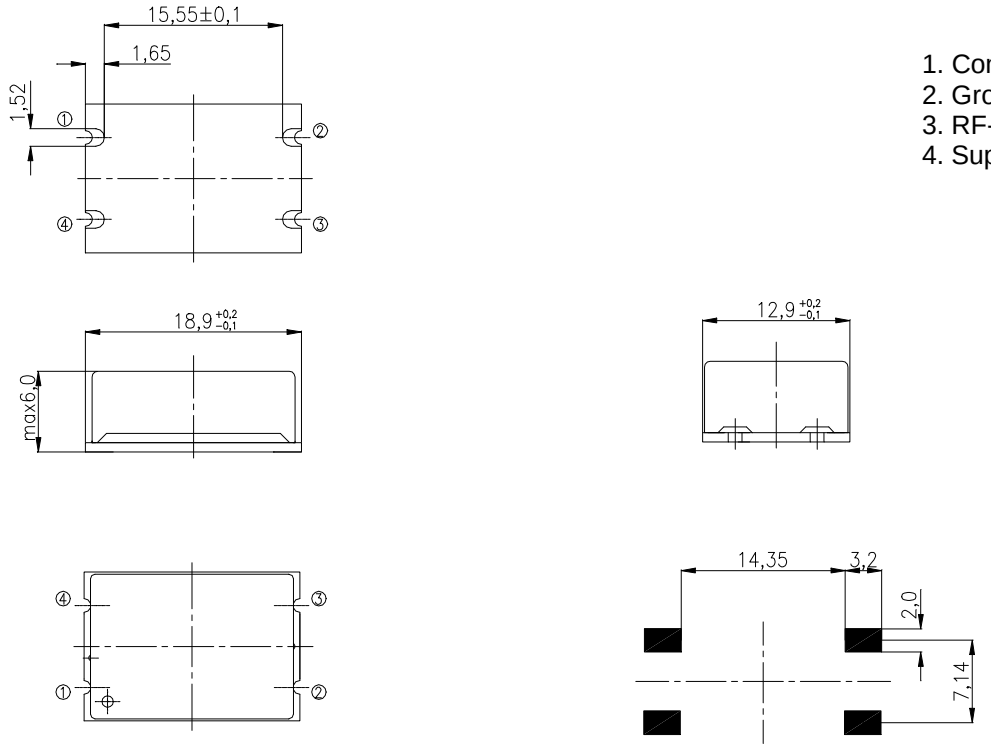
## Typical Applications

Mobile Radio, Weather Radar
Frequency Reference for Low Noise Synthesizers

## Description

The TCXOKSMD100M employs low noise / low jitter temperature compensation techniques with 50-ohm sine wave output and less than 1 ppm temperature stability at 100 MHz operating frequency. A typical noise floor level at the 10 KHz offset is -150 dBc/Hz.

## Physical Dimensions




## Pin Connections

1. Control voltage $V_C$
2. Ground, case
3. RF-output
4. Supply voltage $V_S$

**All Dimensions in mm**

# Specification

| TCXO Specification | | Sym. | Condition | Value | | | Unit | Note |
|---|---|---|---|---|---|---|---|---|
| | | | | Min. | Typ. | Max. | | |
| **Operational Frequency Range** | | $f_0$ | | | 100 | | MHz | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 50 ohm Sine-wave ONLY | Level | L | | 6 | | | dBm | |
| | Load Resistance | RL | | | 50 | | ohm | |
| | | | | | | | | |
| | | | | | | | | |
| **Power supply** | | | | | | | | |
| Voltage | | Vcc | | 4.750 | 5.000 | 5.250 | V | |
| Current consumption | | Icc | | | | 40 | mA | |
| | | | | | | | | |
| **Frequency control*** | | | | | | | | |
| Control voltage range | | Vc | | 0.5 | 2.5 | 4.5 | V | |
| Tuning range Slope | | | | +/- 14 | | | PPM | |
| Vc Input Impedance | | | | 50 | | | Kohm | |
| **Frequency stability** | | | | | | | | |
| vs. temperature | | | -40°C to +85°C, ref 25°C | -1.0 | | +1.0 | ppm | |
| vs. 5% change in supply voltage | | | ref Vcc typ. | -0.100 | | +0.100 | ppm | |
| Tolerance at 25C | | | Initial Tolerance after reflow | -3.0 | | +3.0 | ppm | Vcontrol = 2.5 volts |
| **SSB Phase noise @ 100 MHz typical** | | | 10 Hz | | | | dBc/Hz | |
| | | | 100 Hz | | -105 | -98 | | |
| | | | 1 kHz | | -130 | -125 | | |
| | | | 10 kHz | | -150 | -145 | | |
| | | | 100 kHz | | -153 | -150 | | |
| | | | | | | | | |
| Aging | Per Year | | Projected yearly aging after 30 days operation | -1.0 | | +1.0 | ppm | |
| | | | | | | | | |
| **Environmental, mechanical conditions.** | | | | | | | | |
| Operating temperature range | | | **-40°C to +85°C maximum range available that is standard** | | | | | |
| Storage temperature range | | | **-45°C to +90°C** | | | | | |
| | | | | | | | | |
| Mechanical shock | | | | | | | | |
| Vibration | | | | | | | | |
| Soldering | | | | | | | | |

## Recommended Soldering Profile