

SXO-3225 (+1.8V to +3.3V FIXED MODELS) 3.2x2.5 mm

STANDARD SMD TCXO

XTAL

CLK OSC

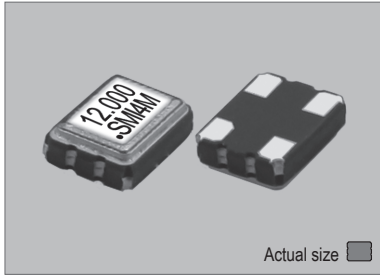
VCXO

TCXO

OCXO

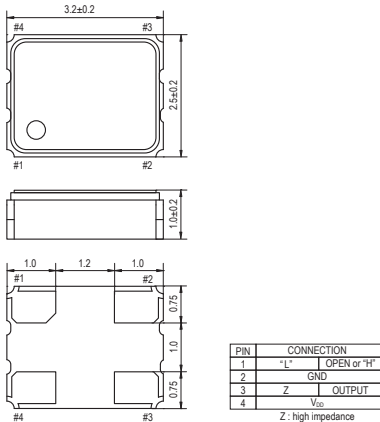
MCF

SXO-3225

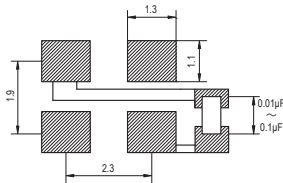


Actual size 0.025 gm (wt.)

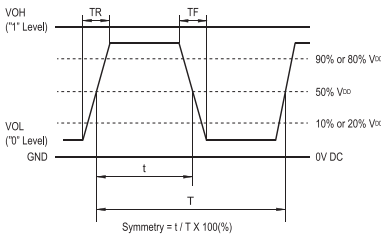
SXO-3225



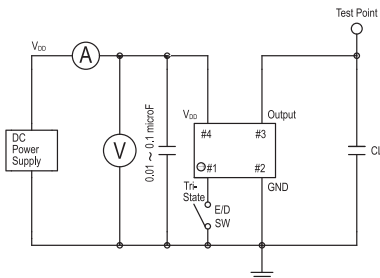
SOLDERING PATTERN



OUTPUT WAVEFORM



TEST CIRCUIT



CL : including fixture and probe capacitance.

STANDARD SPECIFICATIONS

- ENABLE / DISABLE OUTPUT CONTROL
- CMOS OUTPUT
- PACKAGE SIZE 3.2x2.5 mm

| Item | Specifications | | | | | |
|---|---|--|--------------|--------------|--------------|--------------|
| General part number | SXO-3225*1 | | | | | |
| Frequency range | 4.000 MHz to 54.000 MHz | | | | | |
| Initial frequency tolerance at +25°C ±2°C | ±1.0 ppm max. | | | | | |
| Frequency Stability | Temperature range | ±2.5 ppm max. over -30°C to +75°C (referred to +25°C)*2 | | | | |
| | Input voltage change | ±0.2 ppm max. at VDD ±5% DC | | | | |
| | Output load change | ±0.2 ppm max. at 15 pF ±10% | | | | |
| | Aging | ±1 ppm max. per year at +25°C ±3°C | | | | |
| Operating Conditions | Operating temperature | -30°C to +75°C (Standard) -40°C to +85°C (W = Option, frequency dependent) | | | | |
| | Supply voltage (VDD) | D = +1.8V*2, F = +2.5V, H = +2.8V, J = +3.0V, K = +3.3V DC ±5% | | | | |
| | Stand-by control voltage(Pin#1) | V _H : 80% V _{DD} min. V _L : 20% V _{DD} max.*2 | | | | |
| Absolute Max. Ratings | Supply voltage | -0.5V to +4V DC | | | | |
| | Storage temperature | -55°C to +100°C | | | | |
| Input current (max. mA) | | 4 to 10 MHz | 10 to 20 MHz | 20 to 30 MHz | 30 to 40 MHz | 40 to 54 MHz |
| | +1.8V*2 | 3.1 | 3.7 | 4.2 | 4.6 | 5.5 |
| | +2.5V | 3.1 | 3.7 | 4.2 | 4.6 | 5.5 |
| | +2.8V | 3.4 | 4.1 | 4.7 | 5.2 | 6.0 |
| | +3.3V | 4.0 | 4.8 | 5.5 | 6.0 | 7.0 |
| | Stand-by current*3 | 10 µA max. (Pin#1 = V _L)... -40°C to +85°C | | | | |
| Output (-40 C to +85°C) | Symmetry | 45% to 55% at 1/2 V _{DD} level | | | | |
| | Rise and fall times | 5 ns max. (10% V _{DD} to 90% V _{DD} level) | | | | |
| | "0" level | V _{OL} : 10% V _{DD} max. | | | | |
| | "1" level | V _{OH} : 90% V _{DD} min. | | | | |
| Load | 15 pF max. (CMOS) | | | | | |
| Disable delay time | 200 ns max. | | | | | |
| Enable delay time | 10 ms max. | | | | | |
| Start-up time | 10 ms max. | | | | | |
| SSB phase noise (26.000MHz) | -145 dBc / Hz, Typical at 10 kHz offset | | | | | |
| Reflow condition | +250°C ±10°C for 10 seconds +170°C ±10°C for 1 to 2 minutes (preheating) | | | | | |
| Standard frequencies (MHz) | 10.000, 12.000, 16.000, 20.000, 20.480, 24.000, 32.000, 40.000, 44.000 | | | | | |

(*1) Final part number to be assigned with package type, input voltage, operating temperature and frequency.

e.g. SXO-3225-K-W-40MHz

(*2) V_{DD} = +1.8V available for only allover ±5 ppm max. of frequency stability.

(*3) Internal crystal oscillation to be halted (Pin#1 = V_L)

PACKAGE DATA

| Item | Package | SXO-3225 |
|------------------|---------|-----------------------------------|
| Lid | | Metal |
| Base | | Ceramic |
| Sealing | | Seam |
| Terminal | | Tungsten (metalized) |
| Terminal plating | | Gold / Nickel (surface) / (under) |
| RoHS | | Compliant (Pb-free) |

TAPE SPECIFICATIONS

