

Crystal Oscillator (SPXO)

- Package size (2.5 mm × 2.0 mm × 0.8 mm)
- Fundamental mode SPXO
- Output: CMOS
- Reference weight Typ.14 mg

[1] Product Number / Product Name / Marking

(1-1) Product Number / Ordering Code

X1G0041710018xx

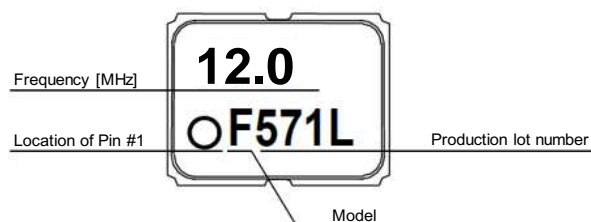
Last 2 digits code(xx) define Quantity.

The standard is "00", 3 000 pcs/Reel.

(1-2) Product Name / Model Name

SG-210STF 12.00000 MHz L

(1-3) Marking



[2] Absolute Maximum Ratings

| Parameter | Symbol | Specifications | | | Unit | Conditions |
|---------------------------|------------------|----------------|------|-----------------------|------|---------------------------|
| | | Min. | Typ. | Max. | | |
| Maximum supply voltage | V _{CC} | -0.3 | - | +4.0 | V | - |
| Input voltage | V _{IN} | -0.3 | - | V _{CC} + 0.3 | °C | ST terminal |
| Storage temperature range | T _{stg} | -40 | - | +125 | °C | Storage as single product |

[3] Operating Range

| Parameter | Symbol | Specifications | | | Unit | Conditions |
|-----------------------------|-------------------|----------------|------|------|------|------------|
| | | Min. | Typ. | Max. | | |
| Supply voltage | V _{CC} | 1.60 | - | 3.63 | V | - |
| | GND | 0 | - | 0 | V | - |
| Operating temperature range | T _{use} | -40 | - | +85 | °C | - |
| CMOS load condition | L _{CMOS} | - | - | 15 | pF | - |

[4] Frequency Characteristics

(Unless stated otherwise [3] Operating Range)

| Parameter | Symbol | Specifications | | | Unit | Conditions |
|------------------------|------------------|----------------|-----------|------|-------------------|--------------------|
| | | Min. | Typ. | Max. | | |
| Output frequency | f _o | - | 12.000000 | - | MHz | - |
| Frequency tolerance *1 | f _{tol} | -50 | - | +50 | ×10 ⁻⁶ | T _{use} |
| Frequency aging | f _{age} | -3 | - | +3 | ×10 ⁻⁶ | +25 °C, First year |

*1 Frequency tolerance includes initial frequency tolerance, temperature variation, supply voltage change and load drift.

[5] Electrical Characteristics

(Unless stated otherwise [3] Operating Range)

| Parameter | Symbol | Specifications | | | Unit | Conditions |
|---------------------|------------------|----------------------|------|----------------------|------|---|
| | | Min. | Typ. | Max. | | |
| Start-up time | t _{str} | - | - | 3.0 | ms | t _r = 0 at 90 % V _{CC} |
| Current consumption | I _{CC} | - | - | 1.8 | mA | No load condition, V _{CC} = 3.3 V |
| Stand-by current | I _{std} | - | - | 2.7 | μA | ST = GND, V _{CC} = 3.3 V |
| Output voltage | V _{OH} | 90 % V _{CC} | - | - | V | I _{OH} = -1.5 mA @V _{CC} = 1.8 V |
| | V _{OL} | - | - | 10 % V _{CC} | V | I _{OL} = 1.5 mA @V _{CC} = 1.8 V |
| Rise time | t _r | - | - | 3.5 | ns | 20 % V _{CC} to 80 % V _{CC} Level, L _{CMOS} = 15 pF, V _{CC} = 1.8 V ± 10 % |
| Fall time | t _f | - | - | 3.5 | ns | 80 % V _{CC} to 20 % V _{CC} Level, L _{CMOS} = 15 pF, V _{CC} = 1.8 V ± 10 % |
| Symmetry | SYM | 45 | - | 55 | % | 50 % V _{CC} Level, L _{CMOS} ≤ 15 pF |
| Input voltage | V _{IH} | 80 % V _{CC} | - | - | V | ST terminal |
| | V _{IL} | - | - | 20 % V _{CC} | V | ST terminal |

[Please visit our website for detail specification]

https://support.epson.biz/td/api/doc_check.php?dl=app_SG-210STF&lang=en

Detail specification includes Outline, Reflow profile, Packing information and others.

[Contact us]

<http://www5.epsondevice.com/en/contact/>

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