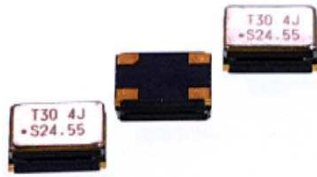


Simple Packaged Crystal Oscillator (SPXO)

Miniature &
Economical type
Ceramic Package

Pb-free : RoHs compliance



SP-3225CT

Typical applications

- 32.768KHz Oscillator for clock.

Features

- C-MOS out / 15pF Load.
- Low current consumption and wide-ranging operating temperature.
- Package : Metal lid + Ceramic package.
- 3.2×2.5×1.0mm

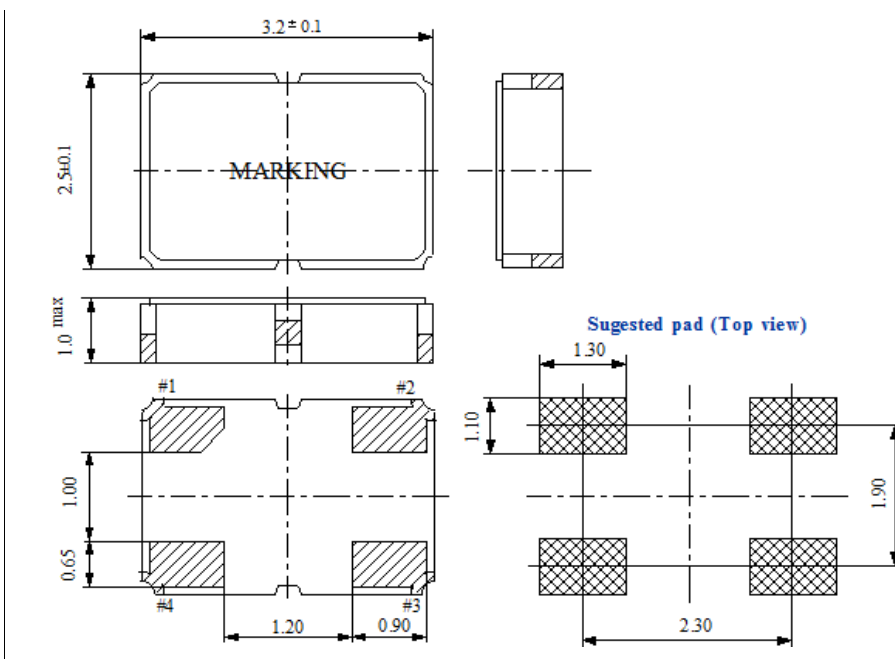
Specifications

Model	SP-3225CT	
Output frequency	32.768 KHz	
Frequency Stability	5±20ppm (25° C, Vdd:3.3V)	
Frequency Temp. characteristics	-90 to +10ppm (-20 to +70°C, 25°C as the reference) -140 to +10ppm (-40 to +85°C, 25°C as the reference)	
Operating Temperature range	-40 to + 85° C	
Storage Temperature	-55 to +125° C	
Power Supply Voltage	1.3 to 5.5V (Std 3.3V±10%)	
Power Supply Current Consumption	1.5 µA max. (Vdd:3.3V, No Load, -40 to+85° C) 2.5 µA max. (Vdd:5.0V, No Load, -40 to+85° C)	
Output	Level	Vol:0.4V max., Voh:(Vdd - 0.4V) mi (CMOS out)
	Load	15 pF
	Rise & Fall Time	200ns max. (at 10% ~ 90%Vdd, CL=15pF)
	Duty Cycle	40% ~ 60% (at 1/2Vdd, CL=15pF, -40+85°C)
Oscillation start up time	1sec max. (Vdd=1.5 ~ 5.5V, -40+85°C)	
Tri state Function	#1 : N.C. or " H " → Output enable #1 : "L" → Output Disable (Hi-Z)	

Environmental Characteristics

Description	Specification
Fall Shock	Test : 3 time free drop onto concrete board from 150cm high Result: ±5.0 ppm max.
Vibration Shock	Test : Freq. 5-500Hz, Amplitude 1.5mm, Test time 4cycles/XYZ axis Result: ±5.0 ppm max.
Solderability	Test : Immersed into solder bath at 235±° C for 3 sec. Result: More than 95%
Humidity	Test : 90 to 95%RH at 60±3° C±500 hours Result: ±5.0 ppm max.
Reflow Heat	Test : 2 times of IR reflow soldering in accordance with reflow temperature profile as per the document No.:TR-0531 Result: ±5.0 ppm max.

Outline Drawing & Suggested Pad



TERMINAL	CONNECTION
#1	CE
#2	GND
#3	OUTPUT
#4	Vdd