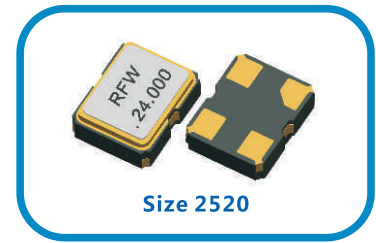


# Crystal Oscillator SMD 2520

## Feature

- Typical 2.5X2.0X0.9 mm ceramic SMD package.
- Tight symmetry (45 to 55 %) available.
- Operation voltage: 1.8V, 2.5V, 3.3V
- Packing: Tape & Reel, 3000 pcs per Reel.



Size 2520

RoHS Compliant

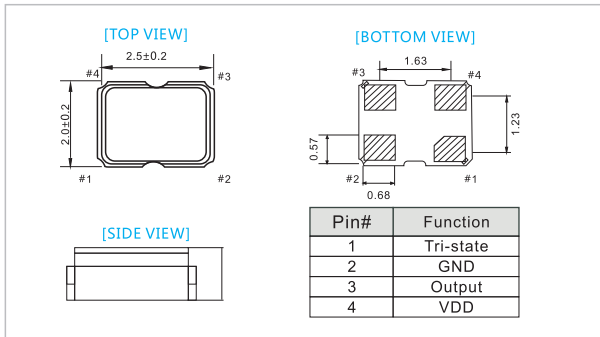


REACH Compliant

## Specifications

Parameter	3.3V		2.5V		1.8V		unit
	Min.	Max.	Min.	Max.	Min.	Max.	
<b>Supply Voltage Variation (Vdd) 10%</b>	2.97	3.63	2.25	2.75	1.62	1.98	V
<b>Frequency Range</b>	1	50	1	50	1	50	MHz
<b>Supply Current</b>	—	15	—	10	—	7	mA
<b>Duty Cycle</b>	45	55	45	55	45	55	%
<b>Output Level (CMOS)</b> Output High (Logic"1") Output Low (Logic"0")	90%VDD	—	90%VDD	—	90%VDD	—	V
	—	10%VDD	—	10%VDD	—	10%VDD	
<b>Transition Time: Rise/Fall Time+</b> 1 MHz ≤ Fo < 20 MHz 20 MHz ≤ Fo < 50 MHz	—	—	—	—	—	—	nSec
	—	3	—	4	—	5	
	—	2	—	3	—	4	
<b>Star Time</b>	—	2	—	2	—	2	mSec
<b>Tri-State(Input to Pin 1)</b> Enable ( High voltage or ficing ) Disable ( Low voltage or GND )	0.7VDD	—	0.7VDD	—	0.7VDD	—	V
	—	0.3VDD	—	0.3VDD	—	0.3VDD	
<b>Period Jitter(Pk-Pk)</b>	—	40	—	40	—	40	pSec
<b>Rms Phase Jitter( Integrated 12 kHz-20 MHz)</b>	—	1	—	1	—	1	pSec
<b>Standby Current</b>	—	15	—	15	—	15	uA
<b>Aging( @ 25°C 1st year)</b>	—	±3	—	±3	—	±3	ppm
<b>Storage Temp. Range</b>	-55	125	-55	125	-55	125	°C

## Outline Drawing



## Frequency Stability Vs. Temperature Range

Temp.(°C)	Ppm	±20	±25	±30	±50	±100
-10 ~ +60	○	○	○	○	○	○
-20 ~ +70	△	○	○	○	○	○
-40 ~ +85	X	△	○	○	○	○
-40 ~ +105	X	X	X	△	○	○
-40 ~ +125	X	X	X	X	○	○

○: Available △: Conditional X: Not available

## Ordering Information

### Part Number Guide

<b>RFW</b> OSC	<b>O2</b> Package Size (mm) O2:2.5*2.0 OP2:2.5*2.0 Programmable OSC	<b>33</b> Supply Voltage (V) XX=x.xV	<b>G</b> Frequency Stability (ppm) C:±20 D:±25 E:±30 G:±50 H:±100	<b>C</b> Temp. Range (°C) I:-10~+60°C C:-20~+70°C L:-40~+85°C X:-40~+105°C Y:-40~+125°C	<b>C</b> Output Logic & Symmetry C:C-MOS 15pF 40/60 D:C-MOS 15pF 45/55	<b>1</b> Tri-State Function 1:Fixed-Freq. with Tri-State 2:NC	- Dash	<b>Freq.</b> (Mhz) XX.XXXXXX

Example RFWO233GCC1-20.000000MHz  
Crystal Oscillator, RoHS Compliant, 2.5\*2.0mm; Voltage=3.3V; Freq. Stability: +/-50ppm; Operating Temp. Range: -20~70°C;  
C-MOS Output; With Tri-state; Freq. 20.000000MHz.  
\*\*Not all combinations of options are available.