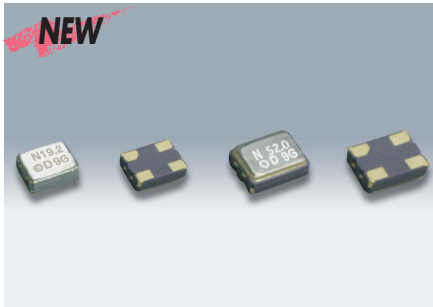


SMD Crystal Oscillators

DSO221SN/DSO321SN



Actual size DSO221SN DSO321SN

Features

- Low voltage operation: 0.9V / 1.3V / 1.5V Typ.
- Available frequency range : 1.5625~50MHz
- Low profile: 0.815mm (DSO221SN), 1.1mm (DSO321SN)

Applications

- PC, PDA, Memory module, USB, peripherals
- DSC, DVC
- WiMAX, Bluetooth, Wireless-LAN
- Mobile phones, Silicon audio player



[Function Code]
DSO221SN E C

[Type]

DSO321SN	3225 size
DSO221SN	2520 size

E : 1.5V
F : 1.3V
G : 0.9V

A : $\pm 100 \times 10^{-6}$
B : $\pm 50 \times 10^{-6}$
C : $\pm 30 \times 10^{-6}$
D : $\pm 25 \times 10^{-6}$
E : $\pm 20 \times 10^{-6}$

Standard Specification

When requesting the product, please select the model and function code of your request.

Item	Function Code		Available Frequency Range (MHz)	Legend	Spec.				Condition
	Supply Voltage	Frequency tolerance			min.	Typ.	max.	Unit	
Supply Voltage	E	*	1.5625 ≤ fo ≤ 50	Vdd	+1.4	+1.5	+1.6	V	
	F	*			+1.2	+1.3	+1.4		
	G	*			+0.8	+0.9	+1.0		
Frequency Tolerance	*	A	*	f_tol	-	-	±100	X10 ⁻⁶	-40~+85°C -10~+70°C (Standard Operating Temperature Range)
	*	B			-	-	±50		
	*	C			-	-	±30		
	*	D			-	-	±25		
	*	E			-	-	±20		
Current Consumption	E, F	*	1.5625 ≤ fo < 32	Idd	-	-	1	mA	No Load
			32 ≤ fo ≤ 50		-	-	1.4		
	G	*	1.5625 ≤ fo < 32		-	-	0.6		
			32 ≤ fo ≤ 50		-	-	1		
Stand-by current (#1 pin "L" Level)	*	*	*	I_std	-	-	10	μA	
Symmetry	*	*	*	SYM	45	50	55	%	50% Vdd Level
0 Level Output Voltage	*	*	*	Vol	-	-	Vdd × 0.1	V	
1 Level Output Voltage	*	*	*	Voh	Vdd × 0.9	-	-	V	
Rise and Fall Time	E, F	*	*	tr, tf	-	-	4	ns	10~90% Vdd Level
	G	*			-	-	8		
Output Load	*	*	*	L_cmos	-	-	15	pF	
OE Pin 0 Level Input Voltage	*	*	*	Vil	-	-	Vdd × 0.2	V	
OE Pin 1 Level Input Voltage	*	*	*	Vih	Vdd × 0.8	-	-	V	
Output Disable Time	*	*	*	TpLz	-	-	10	μs	
Output Enable Time	*	*	*	TpZl	-	-	2	ms	
Packing Unit	2000pcs./reel (φ180)								

Dimensions[mm]

DSO221SN Model Code:N

Pin Connections

Pin No.	Connection
#1	OE(Output Enable)
#2	GND
#3	Output
#4	Vdd

Function

#1 Input	#3 output condition
H	Oscillation out
Open	Oscillation out
L	High Z

Recommended Land Pattern <Top View>

DSO321SN Model Code:N

Pin Connections

Pin No.	Connection
#1	OE(Output Enable)
#2	GND
#3	Output
#4	Vdd

Function

#1 Input	#3 output condition
H	Oscillation out
Open	Oscillation out
L	High Z

Recommended Land Pattern <Top View>