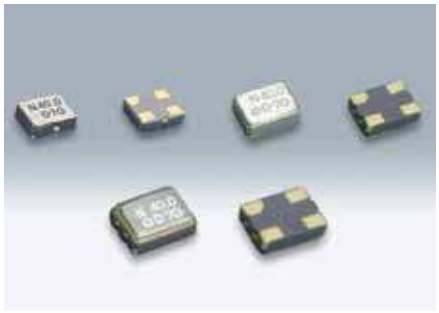
SMD Crystal Oscillators

DSO211AN/DSO221SN/DSO321SN



Actual size DSO211AN DSO221SN DSO321SN

■Features

- Supply Voltage: 0.9V/1.3V/1.5VTyp.
- Available frequency range : 1.5625～100MHz
- Low profile: 0.72mm(DSO211AN), 0.815mm(DSO221SN), 1.1mm(DSO321SN)

■Applications

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

[Type]

DSO211AN	2016 size
DSO221SN	2520 size
DSO321SN	3225 size

Pb-Free

RoHS Compliant

[Function Code]
DSO221SN E A

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

A : ±100×10^{-6}
B : ± 50×10^{-6}
C : ± 30×10^{-6}
D : ± 25×10^{-6}
E : ± 20×10^{-6}

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

■ Standard Specification

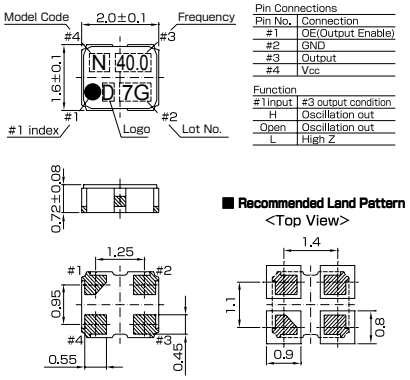
Item	Function Code		Output Frequency Range (MHz)	Legend	Spec.				Condition	
	Supply Voltage	Frequency tolerance			min.	Typ.	max.	Unit		
Supply Voltage	E	*	DSO211AN 9.6≦fo≦80 DSO221SN/321SN 1.5625≦fo≦100	Vcc	+1.4	+1.5	+1.6	V		
	F	*			+1.2	+1.3	+1.4			
	G	*			+0.8	+0.9	+1.0			
Frequency Tolerance (Includes frequency tolerance at room temperature.)	*	A	*	f_tol	–	–	±100	X10^{-6}	−40～+85℃	−10～+70℃ (Standard Operating Temperature Range)
	*	B			–	–	±50		−20～+70℃	
	*	C			–	–	±30			
	*	D			–	–	±25		−10～+70℃	
	*	E			–	–	±20			
Current Consumption	E, F	*	1.5625≦fo≦50	Icc	–	–	2.0	mA	No Load	
			50<fo≦100		–	–	6.8			
	G	*	1.5625≦fo≦50		–	–	1.2	mA		
			50<fo≦100		–	–	3.2			
Stand-by Current(#1 pin "L" Level)	*	*	*	I_std	–	–	20	μA		
Load Condition	*	*	*	L_CMOS	–	–	15	pF		
Symmetry	*	*	*	SYM	45	50	55	%	50% Vcc Level	
0 Level Output Voltage	*	*	*	VOL	–	–	Vcc×0.1	V		
1 Level Output Voltage	*	*	*	VOH	Vcc×0.9	–	–			
Rise and Fall Time	E,F	*	*	tr, tf	–	–	4	ns	10～90% Vcc Level	
	G	*			–	–	8			
OE Pin 0 Level Input Voltage	*	*	*	VIL	–	–	Vcc×0.2	V		
OE Pin 1 Level Input Voltage	*	*	*	VIH	Vcc×0.8	–	–			
Output Disable Time	*	*	*	tPLZ	–	–	10	μs		
Output Enable Time	*	*	*	tPZL	–	–	2	ms		
Period Jitter (1)	E,F	*	*	tRMS	–	5	–	ps	σ	
	G	*	*		–	7	–			
	E,F	*	*	tp-p	–	40	–	ps	Peak to peak	
	G	*	*		–	60	–			
Total Jitter (1)	E,F	*	*	tTL	–	70	–	ps	tDJ + n*tRJ n=14.1(BER=1*10^{-12}) (2)	
	G	*	*		–	98	–			
Phase Jitter	E,F	*	10≦fo<40	tpj	–	–	2	ps	fo offset:12kHz～5MHz	
			40≦fo≦100						fo offset:12kHz～20MHz	
	G	*	10≦fo<40		–	–	4		fo offset:12kHz～5MHz	
			40≦fo≦100						fo offset:12kHz～20MHz	
Packing Unit	2000pcs./reel(φ180)									

(1) Measured WAVECREST DTS-2075
(2) tDJ:Deterministic jitter tRJ:Random jitter

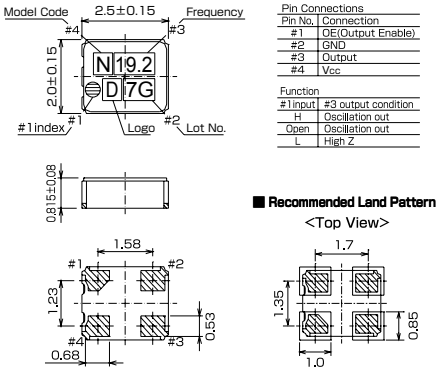
Consult our sales representative for other specifications.

■ Dimensions[mm]

DSO211AN Model Code:N



DSO221SN Model Code:N



DSO321SN Model Code:N