

SMD Crystal Oscillators<For Automotive>

DSO221SX

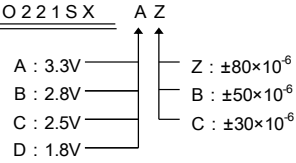
NEW



■ Features

- Supply Voltage: 1.8V/2.5V/2.8V/3.3V
- Available frequency range: 1 to 125MHz
- Low profile: 0.8mm
- CMOS Level Output
- Capable of operating over a wide temperature range, from -40 to 125°C.
- 3-state function
- Conforms to Autonomous Driving Level II
- AEC-Q100/AEC-Q200 Compliant

[Function Code]
D S O 2 2 1 S X



■ Applications

- In-vehicle driving safety applications (millimeter-wave radar, sensing cameras, etc.)

■ Standard Specification

Item	Function Code		Output Frequency Range (MHz)	Legend	Spec.			Unit	Condition
	Supply Voltage	Frequency tolerance			min.	typ.	max.		
Supply Voltage	A	*	$1 \leq f_0 \leq 125$	V _{cc}	+3.0	+3.3	+3.6	V	
	B				+2.6	+2.8	+3.0		
	C				+2.25	+2.5	+2.75		
	D				+1.6	+1.8	+2.0		
Frequency Tolerance (includes frequency tolerance at room temperature)	*	Z	*	f _{tol}	-	-	±80	×10 ⁻⁶	-40 to +125°C
		B			-	-	±50		-40 to +85°C
		C			-	-	±30		
Current Consumption	A	*	$100 < f_0 \leq 125$	I _{cc}	-	-	10.0	mA	No Load
			$40 < f_0 \leq 100$		-	-	4.2		
			$1 \leq f_0 \leq 40$		-	-	2.4		
	B		$100 < f_0 \leq 125$		-	-	9.0		
			$40 < f_0 \leq 100$		-	-	3.7		
			$1 \leq f_0 \leq 40$		-	-	2.2		
	C		$100 < f_0 \leq 125$		-	-	8.0		
			$40 < f_0 \leq 100$		-	-	3.4		
			$1 \leq f_0 \leq 40$		-	-	2.0		
	D		$40 < f_0 \leq 100$		-	-	2.7		
			$1 \leq f_0 \leq 40$		-	-	1.7		
Stand-by Current (#1 pin "L" Level)	*	*	*	I _{std}	-	-	10	μA	
Load Condition	*	*	*	L CMOS	-	-	15	pF	
Symmetry	*	*	*	SYM	45	50	55	%	50% V _{cc} Level
0 Level Input Voltage	*	*	*	V _{OL}	-	-	V _{cc} × 0.1	V	
1 Level Input Voltage	*	*	*	V _{OH}	V _{cc} × 0.9	-	-	V	
Rise and Fall Time	A, B, C	*	*	tr, tf	-	-	3	ns	10 to 90% V _{cc} Level
	D				-	-	5		
OE Pin 0 Level Input Voltage	*	*	*	V _{IL}	-	-	V _{cc} × 0.3	V	
OE Pin 1 Level Input Voltage	*	*	*	V _{IH}	V _{cc} × 0.7	-	-	V	
Output Disable Time	*	*	*	t _{PLZ}	-	-	200	ns	
Output Enable Time	*	*	*	t _{PZL}	-	-	2	ms	
Packing Unit (1)	3000pcs./reel (φ180)								

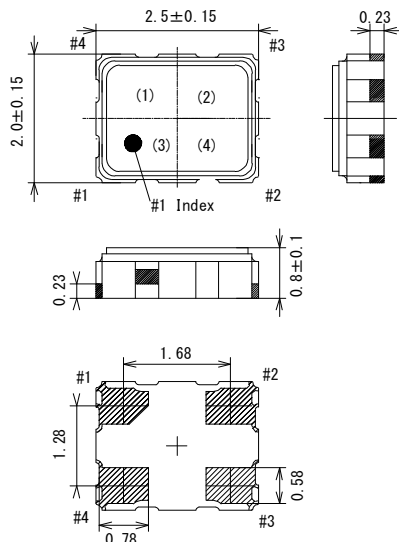
(1) Moisture prevention packing is unnecessary.

Consult our sales representative for other specifications.

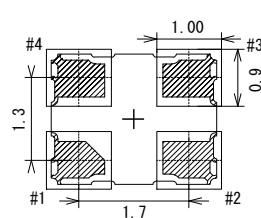
Moisture Sensitivity Level: Level1 (IPC/JEDEC J-STD-033)

[mm]

■ Dimensions



■ Recommended Land Pattern <ToP View>



Pin Connections

Pin No.	Connection
#1	O.E.(Output Enable)
#2	GND
#3	Output
#4	V _{cc}

Function

OE(#1) input	#3 output condition
"H"	Oscillation out
"L"	High Z

Marking

(1) Model code	SX
(2) Frequency	25.0 (MHz, 4digits)
(3) Logo	D
(4) Date code	Year (1digit) + Week (2digits) e.g. 2019/11 → 901