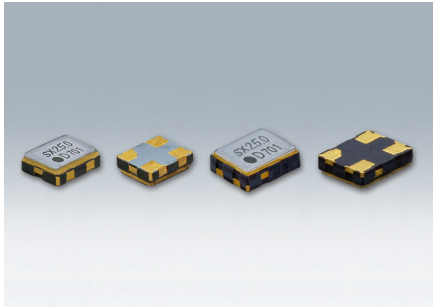


SMD Crystal Oscillators (For Automotive)

DSO211SX/DSO221SX



Actual size DSO211SX DSO221SX

Features

- Supply Voltage: 1.8V/2.5V/2.8V/3.3V
- Available frequency range: 1 to 125MHz
- Low profile: 0.7mm (DSO211SX), 0.8mm (DSO221SX)
- 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



Applications

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

[Type]

DSO211SX	2016 size
DSO221SX	2520 size

[Function Code]

DSO***SX	A Z
A : 3.3V	
B : 2.8V	
C : 2.5V	
D : 1.8V	

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	A	*	1 ≤ f ₀ ≤ 125	V _{cc}	+3.0	+3.3	+3.6	V	-40 to +125°C	
	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			
		C			-	-	±50			-40 to +85°C
Current Consumption	A	*	100 ≤ f ₀ ≤ 125	I _{cc}	-	-	10.0	mA		No Load
			40 ≤ f ₀ < 100		-	-	4.2			
			1 ≤ f ₀ < 40		-	-	2.4			
	B		100 ≤ f ₀ ≤ 125		-	-	9.0			
			40 ≤ f ₀ < 100		-	-	3.7			
			1 ≤ f ₀ < 40		-	-	2.2			
	C		100 ≤ f ₀ ≤ 125		-	-	8.0			
			40 ≤ f ₀ < 100		-	-	3.4			
			1 ≤ f ₀ < 40		-	-	2.0			
	D		40 ≤ f ₀ ≤ 100		-	-	2.7			
			1 ≤ f ₀ < 40		-	-	1.7			
			Stand-by Current (#1 pin "L" Level)		*	*	*		I _{std}	
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		
Reliability	AEC-Q100/AEC-Q200									
Packing Unit (1)	3000pcs./reel (φ 180)									

(1) Moisture prevention packing is unnecessary.
Moisture Sensitivity Level: Level 1 (IPC/JEDEC J-STD-033)

Consult our sales representative for other specifications.

DSO211SX

[mm]

DSO221SX

[mm]

Dimensions

Model Code: SX, 25.0, D, 701

Frequency: []

Pin Connections:

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

Function:

#1 Input	#3 Output condition
H	Oscillation out
L	High Z

Recommended Land Pattern (Top View)

Dimensions

Model Code: SX, 25.0, D, 701

Frequency: []

Pin Connections:

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

Function:

#1 Input	#3 Output condition
H	Oscillation out
L	High Z

Recommended Land Pattern (Top View)