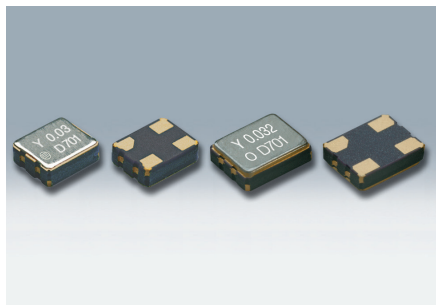


SMD Crystal Oscillators

DSO221SY/DSO321SY



Actual size DSO221SY DSO321SY

Features

- Available frequency range : 32.768kHz, 1.049 to 8.5MHz
- Supply Voltage: 1.8V/2.5V/2.8V/3.3V
- 3-state function
- Low current consumption: 10μA typ.(32.768kHz)
- CMOS Level Output
- Stable frequency variation realized by adopting an At cut resonator
- AEC-Q200 Compliant (Option: Equivalent to AEC-Q100)

Applications

- Timer module, Industrial measuring equipment, Consumer Product



[Type]

DSO221SY	2520 size
DSO321SY	3225 size

[Function Code]

DSO***SY AA

A : 3.3V	A : ±100×10 ⁻⁶
B : 2.8V	B : ±50×10 ⁻⁶
C : 2.5V	N : ±35×10 ⁻⁶
D : 1.8V	C : ±30×10 ⁻⁶
	D : ±25×10 ⁻⁶

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

Standard Specification

Item	Function Code		Output Frequency Range	Legend	Spec.				Condition	
	Supply Voltage	Frequency tolerance			min.	typ.	max.	Unit		
Supply Voltage	A	*	32.768kHz 1.049 ≤ f ₀ ≤ 8.5MHz	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)	*	A	32.768kHz 1.049 ≤ f ₀ ≤ 8.5MHz	f _{tol}	-100	-	+100	× 10 ⁻⁶	-40 to +85°C	-10 to +70°C (Standard Operating Temperature Range)
		B			-50	-	+50			
		N			-35	-	+35			
		C			-30	-	+30			
Current Consumption	*	*	32.768kHz 1.049 ≤ f ₀ ≤ 8.5MHz	I _{cc}	-	-	18	μA	No Load	
					-	-	700			
Stand-by Current (#1 pin "L" Level)	*	*	*	I _{std}	-	-	3	μA	-40 to +85°C	
Load Condition	*	*	*	L _{CMOS}	-	-	15	pF		
Symmetry	*	*	32.768kHz 1.049 ≤ f ₀ ≤ 8.5MHz	SYM	45 40	50 50	55 60	%	at 50% V _{cc}	
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	*	*	*	tr, tf	-	-	15	ns	10 to 90% V _{cc} Level	
OE Pin 0 Level Input Voltage	*	*	*	V _{IL}	-	-	V _{cc} ×0.2	V		
OE Pin 1 Level Input Voltage	*	*	*	V _{IH}	V _{cc} ×0.8	-	-	V		
Output Disable Time	*	*	*	tPLZ	-	-	100	ns		
Output Enable Time	*	*	*	tPZL	-	-	20	ms		
Packing Unit (1)					2000pcs./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.

DSO221SY

[mm] DSO321SY

[mm]

Dimensions

Model Code: Y 0.03 D:701

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
Open	Oscillation out
L	High Z

Recommended Land Pattern (Top View)

Dimensions

Model Code: Y 0.032 D:701

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
Open	Oscillation out
L	High Z

Recommended Land Pattern (Top View)