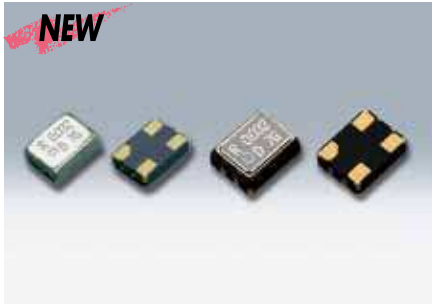
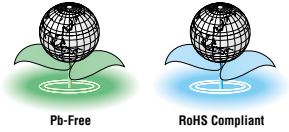


SMD Crystal Oscillators

DSO221SR/DSO321SR(kHz)



Actual size DSO221SR □ DSO321SR □

[Type]

DSO221SR	2520 size
DSO321SR	3225 size

Features

- Supply Voltage: 1.8V/2.5V/2.8V/3.3V/5.0V
- 3-state function
- Low current consumption
- CMOS Level Output
- High speed start-up: 2ms max. until frequency output after power on
- Stable frequency variation realized by adopting an At cut resonator
[Standard] Frequency tolerance: $\pm 35 \times 10^{-6}$ and below
(-40~+85°C, includes frequency tolerance at room temperature)
※ Frequency tolerance at room temperature: $\pm 11 \times 10^{-6}$ and below
(Accuracy ± 30 sec/month)
- AEC-Q 100 compliant

Applications

- Timer module, Industrial measuring equipment, Consumer Product, Clock source for RTC, automotive multimedia device

[Function Code]

DSO321SR A A

A : 3.3V	A: $\pm 100 \times 10^{-6}$
M : 3.0V	B: $\pm 50 \times 10^{-6}$
B : 2.8V	N: $\pm 35 \times 10^{-6}$
C : 2.5V	C: $\pm 30 \times 10^{-6}$
D : 1.8V	D: $\pm 25 \times 10^{-6}$
Y : 5.0V	

Standard Specification

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

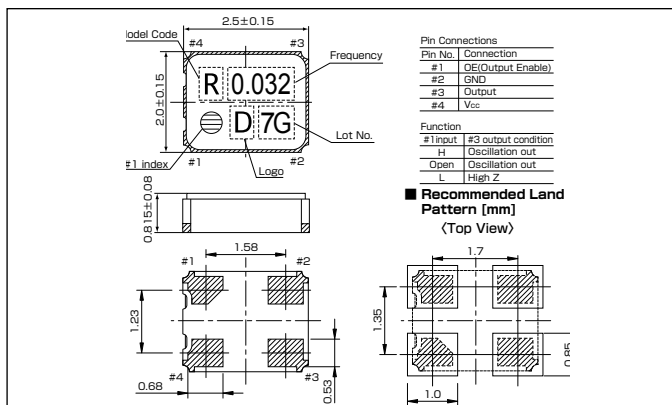
Item	Function Code		Output Frequency Range (KHz)	Legend	Spec.				Condition		
	Supply Voltage	Frequency tolerance			min.	Typ.	max.	Unit			
Supply Voltage	A	*	32.768≤fo≤50	Vcc	+3.0	+3.3	+3.6	V			
	M	*			+2.7	+3.0	+3.3				
	B	*			+2.6	+2.8	+3.0				
	C	*			+2.25	+2.5	+2.75				
	D	*			+1.6	+1.8	+2.0				
	Y	*			+4.5	+5.0	+5.5				
Frequency Tolerance (includes frequency tolerance at room temperature)	*	A	32.768≤fo≤50	f_tol	-100	-	+100	×10 ⁻⁶	-40~-+85℃	-10~-+70℃ (Standard Operating Temperature Range)	
		B			-50	-	+50				
		N			-35	-	+35				
		C			-30	-	+30		-20~-+70℃		
		D			-25	-	+25				-10~-+70℃
Current Consumption	A,M,B,C,D	*	fo=32.768	Icc	-	-	50	μA	No Load		
	32.768<fo≤50		-		-	82					
	fo=32.768		-		-	60					
	32.768<fo≤50		-		-	100					
Stand-by Current(#1 pin "L" Level)	*	*	32.768≤fo≤50	I_std	-	-	1.5	μA	-40~-+85℃		
Load Condition	*	*	32.768≤fo≤50	L_CMOS	-	-	15	pF			
Symmetry	*	*	32.768≤fo≤50	SYM	45	50	55	%	at 50% Vcc		
0 Level Input Voltage	*	*	*	VOL	-	-	Vccx0.1	V			
1 Level Input Voltage				VOH	Vccx0.9	-	-				
Rise and Fall Time	A,M,B,C,D,Y	*	32.768≤fo≤50	tr, tf	-	-	20	ns	10~90% Vcc Level		
OE Pin 0 Level Input Voltage	*	*	*	VIL	-	-	Vccx0.2	V			
OE Pin 1 Level Input Voltage	*	*	*	VIH	Vccx0.8	-	-				
Output Disable Time	*	*	*	tPLZ	-	-	150	ns			
Output Enable Time	*	*	*	tPZL	-	-	2	ms			
Period Jitter (1)	*	*	*	tRMS	-	15	-	ps	σ Peak to peak		
	*	*	*	tp-p	-	150	-				
Total Jitter (1)	*	*	*	tTL	-	220	-	ps	tDJ+n*trJ n=14.1 (BER=1 * 10 ⁻¹²) (2)		
Packing Unit	2000pcs./reel (φ 180)										

(1) Measured WAVECREST DTS-2075

(2) tDJ:Deterministic jitter trJ:Random jitter

Consult our sales representative for other specifications.

DSO221SR 32.768kHz



DSO321SR 32.768kHz

