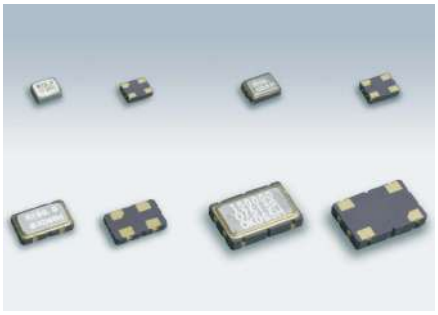
SMD Crystal Oscillators

DSO221SR/DSO321SR/DSO531SR/DSO751SR



Actual size DSO221SR DSO321SR DSO531SR DSO751SR

■Features

- Low current consumption: 6mA max (125MHz, 3.3V)
- Low voltage operation: 1.8V/2.5V/2.8V/3.3V
- Offers Narrow deviation: ±20×10⁻⁶/±30×10⁻⁶/±50×10⁻⁶/±100×10⁻⁶
- Available up to 160MHz by using AT cut fundamental resonator. Low jitter provides for high performance.
- Low profile: 0.815mm(DSO221SR), 1.1mm(DSO321SR/DSO531SR), 1.5mm(DSO751SR)

Pb-Free

RoHS Compliant

[Type]

DSO751SR	7349 size
DSO531SR	5032 size
DSO321SR	3225 size
DSO221SR	2520 size

[Function Code]

DSO***SR A C

A : 3.3V
B : 2.8V
C : 2.5V
D : 1.8V

A : ±100×10⁻⁶
B : ±50×10⁻⁶
C : ±30×10⁻⁶
D : ±25×10⁻⁶
E : ±20×10⁻⁶

■ Standard Specification

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

Item	Function Code		Available Frequency Range (MHz)	Legend	Spec.			Unit	Condition	
	Supply Voltage	Frequency tolerance			min.	Typ.	max.			
Output Frequency Range	A	*	0.3≦fo≦160	Vdd	+3.0	+3.3	+3.6	V		
	B	*	0.3≦fo≦100		+2.6	+2.8	+3.0			
	C	*	0.3≦fo≦100		+2.25	+2.5	+2.75			
	D	*	0.3≦fo≦80		+1.6	+1.8	+2.0			
Frequency Tolerance (Includes frequency tolerance at room temperature.)	*	A	0.3≦fo≦160	f_tol	−100	−	+100	×10⁻⁶	−40～+85℃	−10～+70℃ (Standard Operating Temperature Range)
	*	B	0.3≦fo≦100		−50	−	+50			
	*	C	0.3≦fo≦80		−30	−	+30		−20～+70℃	
	*	D	0.3≦fo≦80		−25	−	+25			
	*	E	0.3≦fo≦50		−20	−	+20		−10～+70℃	
Current Consumption	A	*	0.3≦fo<32	Idd	−	−	1.8	mA	No Load	
			32≦fo<54		−	−	2.5			
			54≦fo<80		−	−	5.0			
			80≦fo<125		−	−	6.0			
			125≦fo≦160		−	−	8.0			
	B	*	0.3≦fo<32		−	−	1.8			
			32≦fo<54		−	−	2.5			
			54≦fo≦100		−	−	5.0			
	C	*	0.3≦fo<32		−	−	1.5			
			32≦fo<54		−	−	2.0			
			54≦fo≦100		−	−	4.0			
	D	*	0.3≦fo<32		−	−	1.0			
			32≦fo<54		−	−	1.4			
			54≦fo≦80		−	−	3.0			
Stand-by current (#1 pin "L" Level)	*	*	*	I_std	−	−	10	μA		
Symmetry	*	*	fo<50	SYM	45	50	55	%	50% Vdd Level	
	*	*	fo≧50		40	50	60			
0 Level Output Voltage	*	*	*	Vol	−	−	Vdd×0.1	V		
1 Level Output Voltage	*	*	*	Voh	Vdd×0.9	−	−			
Rise and Fall Time	A,B,C	*	0.3≦fo≦54	tr, tf	−	−	5 (4)	ns	L_{CMOS}:15pF 10～90% Vdd Level (20～80% Vdd Level)	
	D	*	0.3≦fo≦54		−	−	7 (6)			
	*	*	54<fo<100		−	−	4 (3)			
	*	*	100≦fo≦160		−	−	3 (2.5)			
	A	*	0.3≦fo≦54		−	−	10		L_{CMOS}:30pF 10～90% Vdd Level	
	A	*	54<fo≦80		−	−	6			
Output Load	*	*	*	L_{CMOS}	−	−	15	pF		
	A	*	0.3≦fo≦80		−	−	30			
OE Pin 0 Level Input Voltage	*	*	*	Vil	−	−	Vdd×0.2	V		
OE Pin 1 Level Input Voltage	*	*	*	Vih	Vdd×0.8	−	−			
Output Disable Time	*	*	*	Tplz	−	−	150	ns		
Output Enable Time	*	*	*	Tpzl	−	−	1	ms		
Phase Jitter	A	*	45≦fo≦160	tpj	−	−	1	ps	fo offset: 12kHz～20MHz	
Packing Unit	DSO221SR, DSO321SR: 2000pcs./reel (φ180), DSO531SR: 1000pcs./reel (φ180), DSO751SR: 1000pcs./reel (φ254)									

Consult our sales representative for other specifications.

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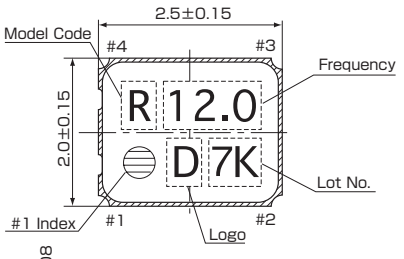
DSO221SR/DSO321SR/DSO531SR/DSO751SR

■ Applications

- PC, PDA, and peripherals, gaming equipment
- DSC, DVD, Blu-ray Disk, TV, HDTV, DVC, HDD
- WiMAX
- Mobile phones: camera module
- Telecommunications: GbEthernet, ISDN

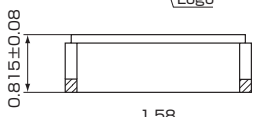
■ Dimensions[mm]

DSO221SR Model code: R

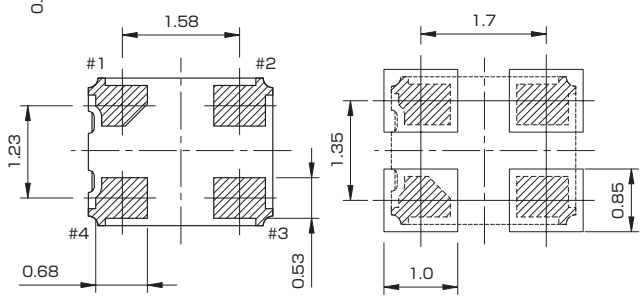


Pin Connections	
Pin No.	Connection
#1	OE(Output Enable)
#2	GND
#3	Output
#4	Vdd

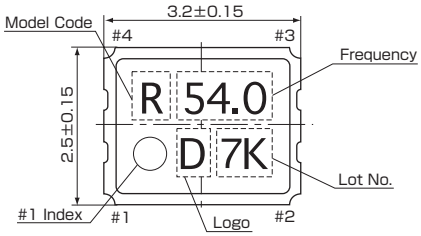
Function	
#1input	#3 output condition
H	Oscillation out
Open	Oscillation out
L	High Z



■ Recommended Land Pattern
〈Top View〉

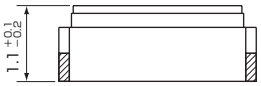


DSO321SR Model code: R

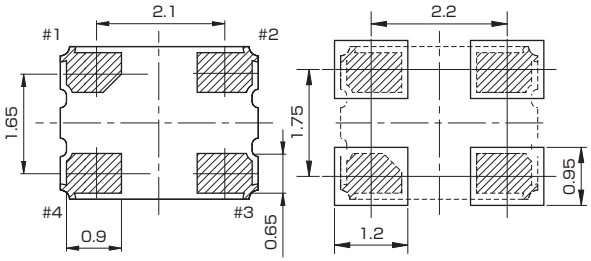


Pin Connections	
Pin No.	Connection
#1	OE(Output Enable)
#2	GND
#3	Output
#4	Vdd

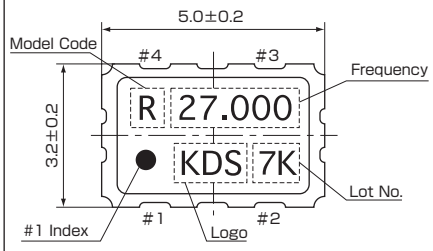
Function	
#1input	#3 output condition
H	Oscillation out
Open	Oscillation out
L	High Z



■ Recommended Land Pattern
〈Top View〉

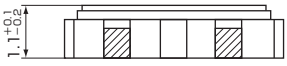


DSO531SR Model code: R

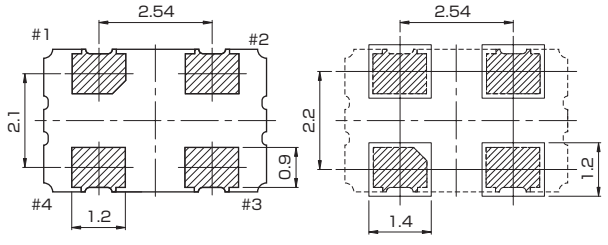


Pin Connections	
Pin No.	Connection
#1	OE(Output Enable)
#2	GND
#3	Output
#4	Vdd

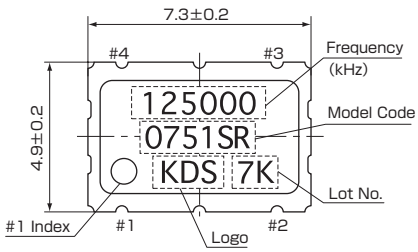
Function	
#1input	#3 output condition
H	Oscillation out
Open	Oscillation out
L	High Z



■ Recommended Land Pattern
〈Top View〉



DSO751SR Model code: 0751SR



Pin Connections	
Pin No.	Connection
#1	OE(Output Enable)
#2	GND
#3	Output
#4	Vdd

Function	
#1input	#3 output condition
H	Oscillation out
Open	Oscillation out
L	High Z

■ Recommended Land Pattern
〈Top View〉