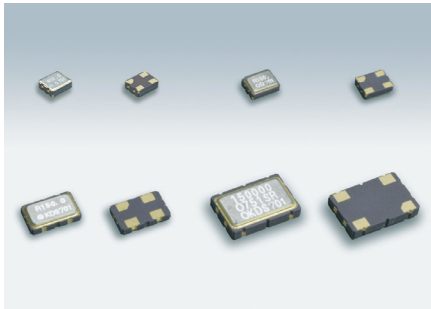


SMD Crystal Oscillators (For Automotive)

DSO221SR/DSO321SR/DSO531SR/DSO751SR



Features

- 3-state function
- Capable of operating over a wide temperature range, from -40 to +125°C.
- AEC-Q200 Compliant (Option: Equivalent to AEC-Q100)

Applications

- Multimedia devices such as car navigation systems and car audio
- Automotive camera

[Type]

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

[Function Code]

DSO***SR

A : 3.3V
M : 3.0V
B : 2.8V
C : 2.5V
D : 1.8V

A A

A, Y : $\pm 100 \times 10^{-6}$
Z : $\pm 80 \times 10^{-6}$
B : $\pm 50 \times 10^{-6}$



Actual size DSO221SR DSO321SR DSO531SR DSO751SR

Standard Specification

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

Item	Function Code		Output Frequency Range (MHz)	Legend	Spec.				Condition
	Supply Voltage	Frequency tolerance			min.	typ.	max.	Unit	
Supply Voltage	A	*	0.2≤fo≤125	VCC	+3.0	+3.3	+3.6	V	
	M		0.2≤fo≤125		+2.7	+3.0	+3.3		
	B		0.2≤fo≤100		+2.6	+2.8	+3.0		
	C		0.2≤fo≤100		+2.25	+2.5	+2.75		
	D		0.2≤fo≤80		+1.6	+1.8	+2.0		
Frequency Tolerance (Includes frequency tolerance at room temperature.)	*	Y	0.2≤fo≤100	f_tol	-100	—	+100	×10 ⁻⁶	-40 to +125℃
		Z	0.2≤fo≤100		-80	—	+80		-40 to +110℃
		A	100<fo≤125		-100	—	+100		-40 to +85℃
		B	0.2≤fo≤100		-50	—	+50		
Current Consumption	A,M	*	0.2≤fo<54	ICC	—	—	+4.0	mA	No Load
			54≤fo<80		—	—	+6.0		
			80≤fo≤125		—	—	+8.0		
	B	*	0.2≤fo<54		—	—	+3.5		
			54≤fo<80		—	—	+5.5		
			80≤fo≤100		—	—	+7.5		
	C	*	0.2≤fo<54		—	—	+3.0		
			54≤fo<80		—	—	+5.0		
			80≤fo≤100		—	—	+7.0		
	D	*	0.2≤fo<54		—	—	+2.5		
			54≤fo≤80		—	—	+4.5		
	Stand-by Current (#1 pin "L" level)	*	*		*	I_std	—		
Load Condition	*	*	*	L_CMOS	—	—	15	pF	
Symmetry	*	*	*	SYM	40	50	60	%	50% VCC Level
0 Level Output Voltage	*	*	*	VOL	—	—	VCC×0.1	V	
1 Level Output Voltage	*	*	*	VOH	VCC×0.9	—	—	V	
Rise and Fall Time	*	*	0.2≤fo≤54	tr,tf	—	—	8	ns	10 to 90% VCC Level
			54<fo<100		—	—	4		
			100≤fo≤125		—	—	3		
OE Pin 0 Level Input Voltage	*	*	*	VIL	—	—	VCC×0.2	V	
OE Pin 1 Level Input Voltage	*	*	*	VIH	VCC×0.8	—	—	V	
Output Disable Time	*	*	*	tPLZ	—	—	150	ns	
Output Enable Time	*	*	*	tPZL	—	—	5	ms	
Period Jitter (1)	*	*	*	tRMS	—	2.2	—	ps	σ
Total Jitter (1)	*	*	*	tp-p	—	20	—	ps	Peak to peak
Phase Jitter	*	*	40≤fo≤125	tpj	—	31	—	ps	fo offset:12kHz to 20MHz
			10≤fo<40		—	—	1		fo offset:12kHz to 5MHz
Reliability	AEC-Q100/AEC-Q200								
Packing Unit (3)	DSO221SR, DSO321SR: 2000pcs./reel(180 φ), DSO531SR: 1000pcs./reel(180 φ), DSO751SR: 1000pcs./reel(254 φ)								

(1) Measured WAVECREST DTJ-2075

(2) tDJ: Deterministic jitter tRJ: Random jitter

(3) Moisture prevention packing is unnecessary.

Moisture Sensitivity Level: Level 1 (IPC/JEDEC J-STD-033)

Consult our sales representative for other specifications.

■ DSO221SR [mm] ■ DSO321SR [mm] ■ DSO531SR [mm] ■ DSO751SR [mm]

Dimensions	Dimensions	Dimensions	Dimensions