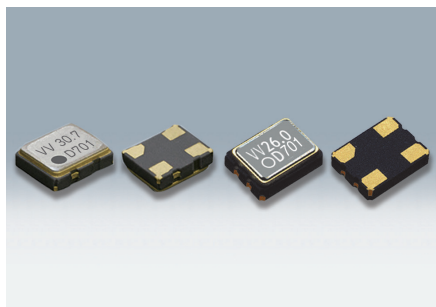


# SMD Voltage Controlled Crystal Oscillators

## DSV221SV/DSV321SV



### ■ Features

- DSV221SV: 2520 size, 0.8 mm height  
DSV321SV: 3225 size, 1.1mm height
- The product is an analog VCXO which ensures good variable frequency and a linear changing frequency.
- Low current consumption
- CMOS Level Output

### ■ Applications

- DVD, Digital TV, STB, backbone transmission equipment



Actual size DSV221SV DSV321SV

### ■ Standard Specification

Item	Type	Legend	DSV221SV	DSV321SV
Output Frequency Range		f <sub>0</sub>	30.72MHz	6.75 to 125MHz
Supply Voltage		V <sub>cc</sub>	+3.3V±0.33V	
Frequency Control Voltage		V <sub>cont</sub>	+1.65V±1.65V	
Storage Temperature Range		T <sub>stg</sub>	-40 to +85°C	
Operating Temperature Range		T <sub>use</sub>	-30 to +85°C	-10 to +70°C / -30 to +85°C
Frequency Tolerance (Includes frequency tolerance at room temperature.)		f <sub>tol</sub>	±40×10 <sup>-6</sup> max.	
Frequency Adjustment Range		f <sub>cont</sub>	±100×10 <sup>-6</sup> min. [Positive Slope]	
Current Consumption		I <sub>cc</sub>	7mA max. [No Load]	7mA max. (6.75MHz≤f <sub>0</sub> ≤36MHz) 17mA max. (36MHz<f <sub>0</sub> ≤70MHz) 27mA max. (70MHz<f <sub>0</sub> ≤125MHz) [No Load]
Load Condition		L <sub>CMOS</sub>	15pF	
Symmetry		SYM	40 to 60% [50% V <sub>cc</sub> Level]	
0 Level Output Voltage		V <sub>OL</sub>	V <sub>cc</sub> ×0.1 max.	
1 Level Output Voltage		V <sub>OH</sub>	V <sub>cc</sub> ×0.9 min.	
Rise and Fall Time		t <sub>r</sub> , t <sub>f</sub>	5ns max. [10 to 90% V <sub>cc</sub> Level]	5ns max. (6.75MHz≤f <sub>0</sub> ≤90MHz) 3ns max. (90MHz<f <sub>0</sub> ≤125MHz) [10 to 90% V <sub>cc</sub> Level]
Period Jitter (1)		t <sub>RMS</sub>	2.4ps typ. (σ)	
		t <sub>p-p</sub>	22ps typ. (Peak to peak)	
Total Jitter (1)		t <sub>TL</sub>	33ps typ. [t <sub>DJ</sub> + n×t <sub>RJ</sub> n=14.1 (BER=1×10 <sup>-12</sup> )(2)]	
Phase Jitter		t <sub>pj</sub>	1ps max. (10MHz≤f <sub>0</sub> <40MHz, f <sub>0</sub> offset : 12kHz to 5MHz, f <sub>0</sub> ≥40MHz, f <sub>0</sub> offset : 12kHz to 20MHz)	
Packing Unit (3)		-	2000pcs./reel (φ180)	

(1) Measured WAVECREST DTS-2075

(2) t<sub>DJ</sub>: Deterministic jitter t<sub>RJ</sub>: 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.

### ■ DSV221SV

[mm]

### ■ DSV321SV

[mm]

