

Development of the world's smallest Voltage Controlled Crystal Oscillator (VCXO), DSV211AR

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DAISHINKU CORP. (President :Sohei Hasegawa) announces the development of the DSV211AR, the world's smallest Voltage Controlled Crystal Oscillator (VCXO).

Since one-segment broadcasting had started in 2006, it has been in high demand and mounted on Mobile communication equipment, such as mobile phones and PCs, and automobiles. This equipment has become smaller with a higher expectation by the industry, as well as the products made with these. The DSV221S, 2.5*2.0mm VCXO, was developed to meet these needs on May, 2008. DAISHINKU CORP. developed the DSV211AR and succeeded in further miniaturization and upgrading. The oscillator is the world's smallest VCXO, its size is 2.0*1.6*0.72(0.8mm max.) and especially suitable for use in tuner modules for one-segment broadcasting of mobile phones as well as other products.

Compared with its conventional 2520 size, the volume is reduced by 44% (0.0041cc to 0.0023cc), and the area is also reduced by 36% (5.0mm² to 3.2mm²). The downsizing makes high density packaging possible.

As for securing the frequency adjustment range, which is more difficult in downsizing, adopting newly developed Oscillating circuit IC and crystal resonator made it possible to expand more than +/-110*10⁻⁶ min. It also can expand operating temperature range from -40 deg.C to +85 deg.C (-30 deg.C to +85 deg.C with 2520 size). The expansion made it possible to use the oscillator more easily and improved its performance.

The oscillator can operate at +1.8V supply voltage. The DSV221AR provides a very low current consumption of up to 1.2mA operating at +1.8V supply voltage. The oscillator is an environmental responsive product which is lead-free and RoHS compliant.

[Product]

DSV211AR

[Features]

Ultra miniature: 2016size (2.0*1.6mm), height 0.72mm (0.8mm max.)

Output Frequency Range: 27 MHz

Supply voltage: 1.6V to 3.6V

Adaptability to environmental change: ensured same or higher adaptability to environmental change than conventional model by the adoption of metal melting sealing and the upgrade of electrode material.

Lead-free and RoHS Compliant

[Applications]

Tuner modules for one-segment broadcasting (for mobile phones), Media Player, PND (Personal Navigation Device), DSC (Digital Still Camera), DVC (Digital Video Camera), HDTV (PDP, LC)

[Mass Production]

June, 2009

[Sample Price]

800 yen Samples are available now.

[Manufacturing Capacity]

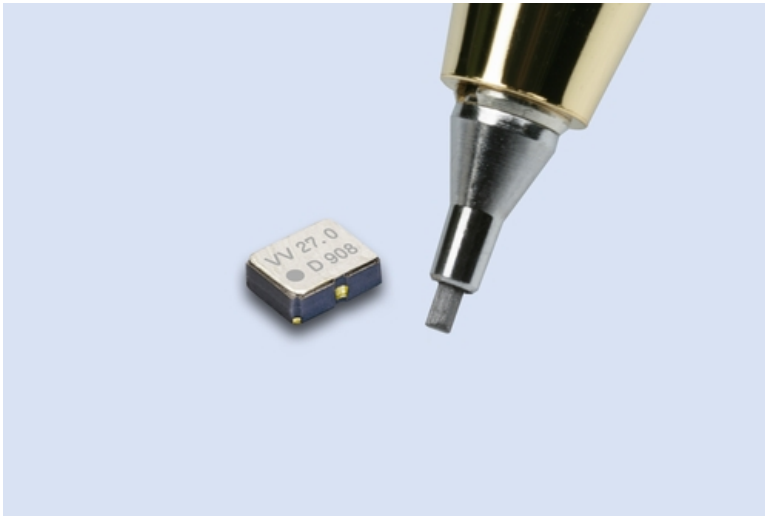
1 million/month

[Electrical Specification]

Item	Legend	Specification	Condition
Output Frequency Range	fo	27MHz	
Supply Voltage	Vdd	1.8V±5%, 2.8V±5%, 3.3V±5%	* Choose any one of the voltage
Frequency Tolerance	f_tol	±40×10 ⁻⁶ max.	Vdd±5% T_use = -40 to +85 deg.C
Frequency Adjustment Range	fcnt	±110×10 ⁻⁶ min. Positive slope	Vcont = 0.5 × Vdd±0.5×Vdd
Current Consumption	Idd	1.2mA max.	1.8V, No Load
		1.8mA max.	2.8V, No Load
		2.0mA max.	3.3V, No Load
Wave Form (at CL=15pF)			
Symmetry	-	50±5%	0.5×Vdd Level
Rise Time	tr	10 ns max.	0.1×Vdd to 0.9×Vdd
Fall Time	tf	10 ns max.	0.1×Vdd to 0.9×Vdd
0 Level Output Voltage	Vol	0.1×Vdd max.	
1 Level output Voltage	Voh	0.9×Vdd min.	

* Consult our sales representative for other specifications

[Product Photograph]



[Dimensions]

