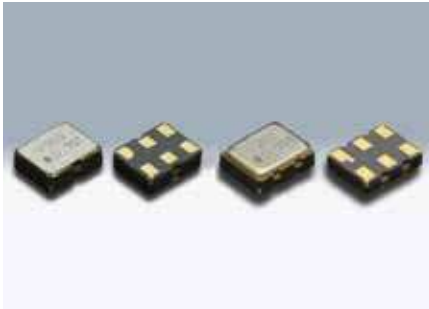


# SMD Crystal Oscillators with dedicated temp. sensor

## DSG211STA/DSG221STA

for GPS



Actual size DSG211STA □  
DSG221STA □

### ■ Features

- Low voltage operation
- Extra low phase noise
- Analog temperature sensor output
- Single packaged structure
- Prevention of moisture packing is unnecessary  
Moisture Sensitivity Level : LEVEL 1  
(IPC/JEDEC J-STD-033)



### ■ Applications

- GPS

[Type]

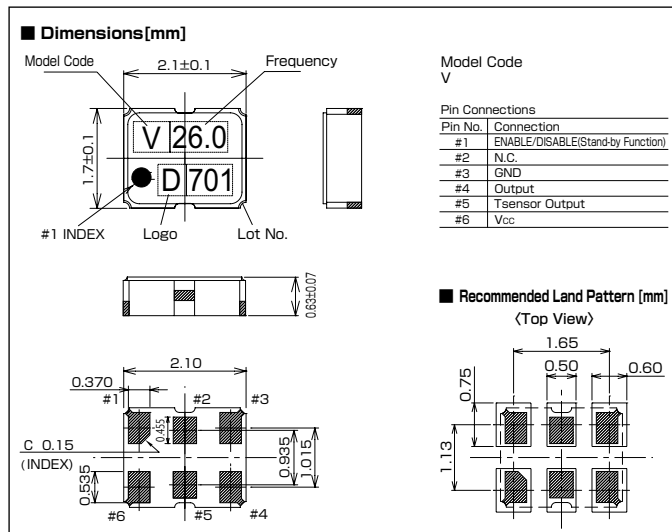
TSXO	Size
DSG211STA	2016 size
DSG221STA	2520 size

### ■ Standard Specification

Item	Type	DSG211STA	DSG221STA
Output Frequency Range		13~52 MHz	9.6~52 MHz
Standard Frequency		16.3676/ 16.367667/ 16.368/ 16.369/ 16.8/ 26/ 38.4 MHz	
Supply Voltage Range		+1.68~+3.5V	
Supply Voltage(Vcc)		+1.8V / +2.8 V / +3.0V / +3.3V	
Current Consumption		+1.5 mA max. (F≤26MHz)/+2.0 mA max. (F>26MHz)	
Stand-by Current		+3.0 μA max.	
Output Level		0.8 V <sub>p-p</sub> min. (Clipped Sinewave / DC-coupled)	
Output Load		10 kΩ//10 pF	
Frequency Stability Tolerance		±5.0×10 <sup>-6</sup> max.(After 2 reflows)	
vs. Temperature		±15×10 <sup>-6</sup> max. / -30~+85°C	
vs. Supply Voltage		±0.2×10 <sup>-6</sup> max. (Vcc±5%)	
vs. Load Variation		±0.2×10 <sup>-6</sup> max.	
vs. Aging		±1.0×10 <sup>-6</sup> max. /year	
Start up Time		2.0ms max.	
Output Enable Time		2.0ms max.	
SSB Phase Noise		[f≤26MHz]	[f>26MHz]
Offset 100Hz		-125 dBc/Hz	-120 dBc/Hz
Offset 1kHz		-140 dBc/Hz	-135 dBc/Hz
Offset 10kHz		-145 dBc/Hz	-145 dBc/Hz
Offset 100kHz		-150 dBc/Hz	-145 dBc/Hz
Temp. Sensor Output		+0.950 V Typ.(Ta=+25°C) -8.70 mV/°C Typ.	
Packing Unit		2000pcs./reel (φ 180)	

Consult our sales representative for other specifications.

### ■ DSG211STA



### ■ DSG221STA

