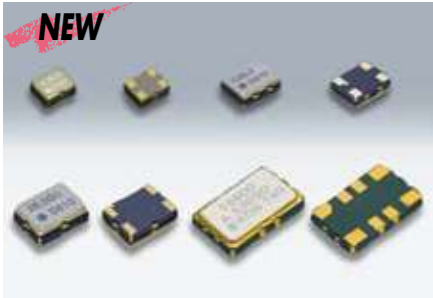


# High-precision SMD VC-TCXO/TCXO

DSA211SDA/DSA221SDA/DSA321SDA/DSA535SD/  
DSB211SDA/DSB221SDA/DSB321SDA/DSB211SDB/DSB221SDB/DSB321SDB/DSB535SD



Actual size DSA211SDA □ DSA221SDA □  
DSA321SDA □ DSA535SD □

## Features

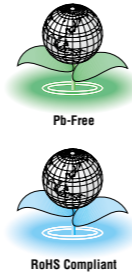
- Low supply voltage
- Low phase noise
- Single package structure
- Prevention of moisture packing is unnecessary.  
Moisture Sensitivity Level : LEVEL 1  
(IPC/JEDEC J-STD-033)

## Applications

- Mobile phones (W-CDMA HSPA)
- GPS and Industrial radio communications

[Type]

VC-TCXO	TCXO	TCXO(Stand-by Function)	Size
DSA211SDA	DSB211SDA	DSB211SDB	2016 size
DSA221SDA	DSB221SDA	DSB221SDB	2520 size
DSA321SDA	DSB321SDA	DSB321SDB	3225 size
DSA535SD	DSB535SD	-	5032 size



## Standard Specification

Item	Type	VC-TCXO				TCXO							
		DSA211SDA	DSA221SDA	DSA321SDA	DSA535SD	DSB211SDA	DSB221SDA	DSB321SDA	DSB211SDB (Stand-by Function)	DSB221SDB (Stand-by Function)	DSB321SDB (Stand-by Function)	DSB535SD	
Frequency Range		13~52MHz	9.6~52MHz	9.6~40MHz	13~52MHz	9.6~52MHz	13~52MHz	9.6~40MHz					
Standard Frequency		19.2/ 26/ 38.4/ 40/ 52MHz	13/ 19.2/ 26MHz	16.3676/ 16.367667/ 16.368/ 16.369/ 16.8/ 26/ 33.6MHz									
Operating Voltage Range		+1.7~+3.5V		+2.3~+5.5V	+1.7~+3.5V						+2.3~+5.5V		
Supply Voltage(Vdd)		+1.8V/ +2.6V/ +2.8V/ +3.0V/ +3.3V		+2.6/+2.8/+3.0/+3.3V	+1.8V/ +2.8V/ +3.0V/ +3.3V						+2.6V/ +2.8V/ +3.0V/ +3.3V		
Current Consumption		+1.5 mA max.(f≤26MHz)/ +2.0 mA max.(f>26MHz)											
Stand-by Current		-				-						1μA max.	-
Output Level		0.8 Vp-p min.(Clipped Sinewave / DC-coupled)											
Output Load		10kΩ//10pF											
Frequency Stability Tolerance		±1.5×10 <sup>-6</sup> max.(After 2 reflows)											
vs. Temperature		±1.0×10 <sup>-6</sup> max. / -30~+85°C				±0.5×10 <sup>-6</sup> max. / -30~+85°C							
		±1.0×10 <sup>-6</sup> max. / -40~+85°C(Option)				±0.5×10 <sup>-6</sup> max. / -40~+85°C(Option)							
vs. Supply Voltage		±0.2×10 <sup>-6</sup> max.(Vdd±5%)											
vs. Load Variation		±0.2×10 <sup>-6</sup> max.(10kΩ//10pF±10%)											
vs. Aging		±1.0×10 <sup>-6</sup> max. /year											
Start Up Time		2.0ms max.											
Output Enable Time		-				-						2.0ms max.	-
Frequency Control Control Sensitivity		±3.0×10 <sup>-6</sup> ~±5.0×10 <sup>-6</sup> / Vcont=+1.4±1V @Vdd≥+2.6V				-							
		±3.0×10 <sup>-6</sup> ~±5.0×10 <sup>-6</sup> / Vcont=+0.9±0.6V @Vdd=+1.8V				-							
Response Slope		Positive				-							
Phase Noise		[f≤15MHz]		[15MHz<f≤26MHz]			[26MHz<f≤40MHz]						
Offset 100Hz		-115dBc/Hz		-110dBc/Hz			-105dBc/Hz						
Offset 1kHz		-135dBc/Hz		-130dBc/Hz			-125dBc/Hz						
Offset 10kHz		-145dBc/Hz		-140dBc/Hz			-135dBc/Hz						
Offset 100kHz		-145dBc/Hz		-145dBc/Hz			-145dBc/Hz						
Packing Unit		2000pcs./reel(φ180)		4000pcs./reel(φ330)			2000pcs./reel(φ180)				4000pcs./reel(φ330)		

Consult our sales representative for other specifications.

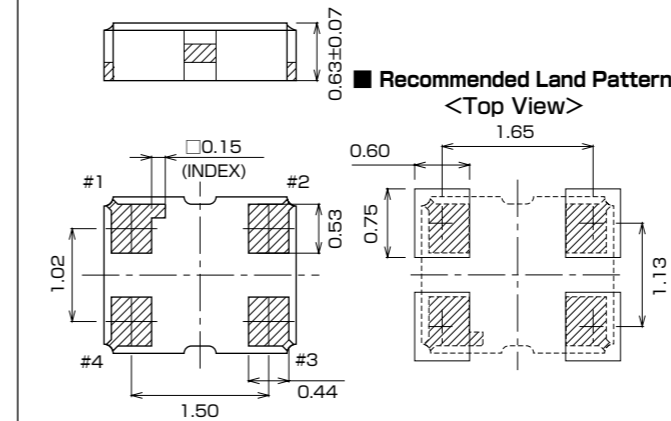
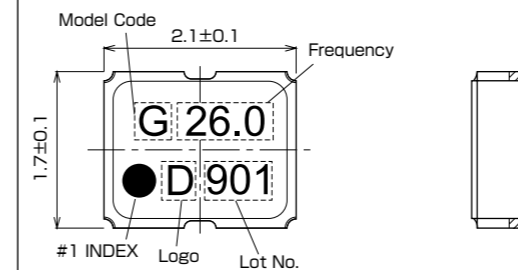
# High-precision SMD VC-TCXO/TCXO

For Mobile communications/Industrial system/GPS

## Dimensions[mm]

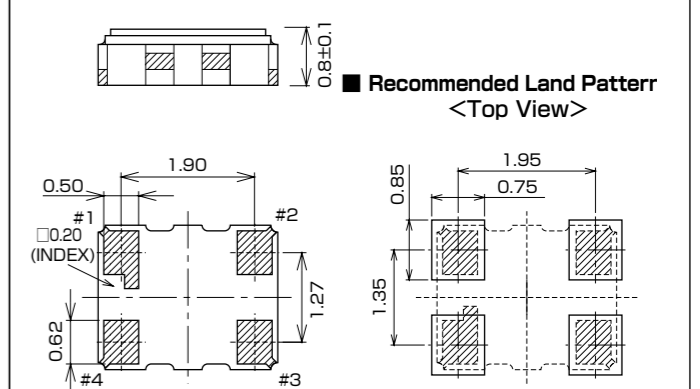
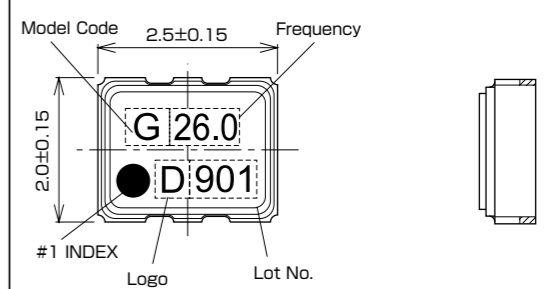
### DSA211SDA/DSB211SDA/DSB211SDB

Model Code	G : VC-TCXO (DSA211SDA)	H : TCXO (DSB211SDA)	L : TCXO (DSB211SDB Stand-by Function)										
Pin Connections	<table border="1"> <tr> <th>Pin No.</th> <th>Connection</th> </tr> <tr> <td>#1</td> <td>Vcont(VC-TCXO)/GND(TCXO) ENABLE/DISABLE(Stand-by Function)</td> </tr> <tr> <td>#2</td> <td>GND</td> </tr> <tr> <td>#3</td> <td>Output</td> </tr> <tr> <td>#4</td> <td>Vdd</td> </tr> </table>			Pin No.	Connection	#1	Vcont(VC-TCXO)/GND(TCXO) ENABLE/DISABLE(Stand-by Function)	#2	GND	#3	Output	#4	Vdd
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#2	GND												
#3	Output												
#4	Vdd												



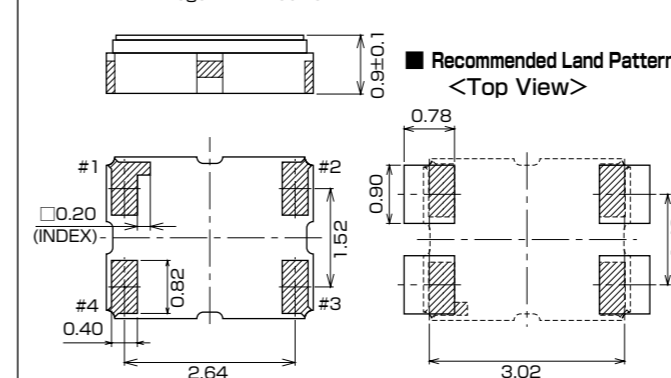
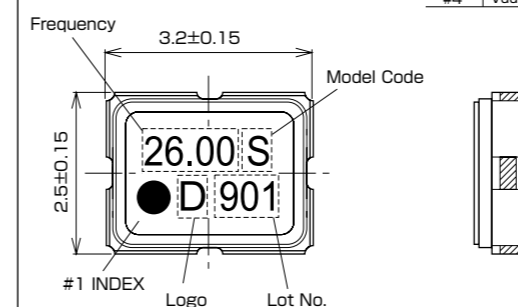
### DSA221SDA/DSB221SDA/DSB221SDB

Model Code	G : VC-TCXO (DSA221SDA)	H : TCXO (DSB221SDA)	L : TCXO (DSB221SDB Stand-by Function)										
Pin Connections	<table border="1"> <tr> <th>Pin No.</th> <th>Connection</th> </tr> <tr> <td>#1</td> <td>Vcont(VC-TCXO)/GND(TCXO) ENABLE/DISABLE(Stand-by Function)</td> </tr> <tr> <td>#2</td> <td>GND</td> </tr> <tr> <td>#3</td> <td>Output</td> </tr> <tr> <td>#4</td> <td>Vdd</td> </tr> </table>			Pin No.	Connection	#1	Vcont(VC-TCXO)/GND(TCXO) ENABLE/DISABLE(Stand-by Function)	#2	GND	#3	Output	#4	Vdd
Pin No.	Connection												
#1	Vcont(VC-TCXO)/GND(TCXO) ENABLE/DISABLE(Stand-by Function)												
#2	GND												
#3	Output												
#4	Vdd												



### DSA321SDA/DSB321SDA/DSB321SDB

Model Code	S : VC-TCXO (DSA321SDA)	T : TCXO (DSB321SDA)	U : TCXO (DSB321SDB Stand-by Function)										
Pin Connections	<table border="1"> <tr> <th>Pin No.</th> <th>Connection</th> </tr> <tr> <td>#1</td> <td>Vcont(VC-TCXO)/GND(TCXO) ENABLE/DISABLE(Stand-by Function)</td> </tr> <tr> <td>#2</td> <td>GND</td> </tr> <tr> <td>#3</td> <td>Output</td> </tr> <tr> <td>#4</td> <td>Vdd</td> </tr> </table>			Pin No.	Connection	#1	Vcont(VC-TCXO)/GND(TCXO) ENABLE/DISABLE(Stand-by Function)	#2	GND	#3	Output	#4	Vdd
Pin No.	Connection												
#1	Vcont(VC-TCXO)/GND(TCXO) ENABLE/DISABLE(Stand-by Function)												
#2	GND												
#3	Output												
#4	Vdd												



### DSA535SD/DSB535SD

Model Code	A : VC-TCXO (DSA535SD)	B : TCXO (DSB535SD)																		
Pin Connections	<table border="1"> <tr> <th>Pin No.</th> <th>Connection</th> </tr> <tr> <td>#1</td> <td>Vcont(VC-TCXO)/GND(TCXO)</td> </tr> <tr> <td>#2</td> <td>N.C.(Test Terminal)</td> </tr> <tr> <td>#3</td> <td>N.C.(Test Terminal)</td> </tr> <tr> <td>#4</td> <td>GND</td> </tr> <tr> <td>#5</td> <td>Output</td> </tr> <tr> <td>#6</td> <td>N.C.(Test Terminal)</td> </tr> <tr> <td>#7</td> <td>N.C.(Test Terminal)</td> </tr> <tr> <td>#8</td> <td>Vdd</td> </tr> </table>		Pin No.	Connection	#1	Vcont(VC-TCXO)/GND(TCXO)	#2	N.C.(Test Terminal)	#3	N.C.(Test Terminal)	#4	GND	#5	Output	#6	N.C.(Test Terminal)	#7	N.C.(Test Terminal)	#8	Vdd
Pin No.	Connection																			
#1	Vcont(VC-TCXO)/GND(TCXO)																			
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#7	N.C.(Test Terminal)																			
#8	Vdd																			

