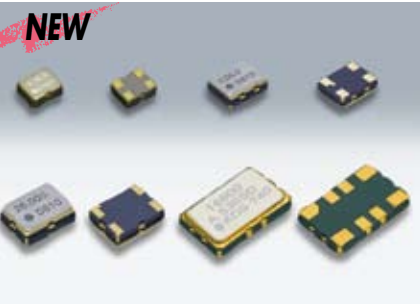


# High-precision SMD VC-TCXO/TCXO

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



Actual size DSA211SDA DSA221SDA  
DSA321SDA DSA535SD

### Features

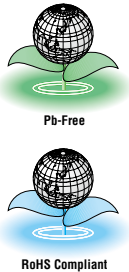
- Low supply voltage
- Low phase noise
- Single package structure
- Prevention of moisture packing is unnecessary.  
Moisture Sensitivity Level : LEVEL 1  
(IPC/JEDEC J-STD-033)

### 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

Type	VC-TCXO				TCXO						
Item	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						+2.8V/ +2.9V/ +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℃				±0.5×10 <sup>-6</sup> max. / -30~+85℃						
	±1.0×10 <sup>-6</sup> max. / -40~+85℃(Option)				±0.5×10 <sup>-6</sup> max. / -40~+85℃(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.

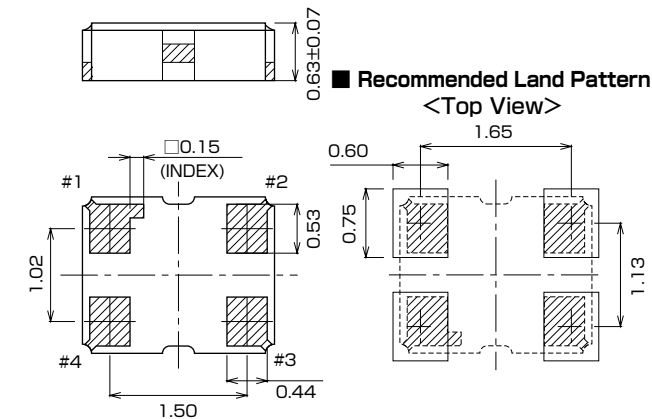
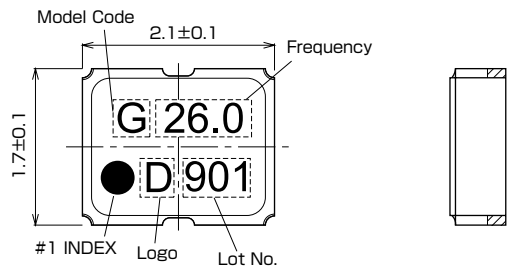
# High-precision SMD VC-TCXO/TCXO

For Mobile communications/Industrial system/GPS

### Dimensions[mm]

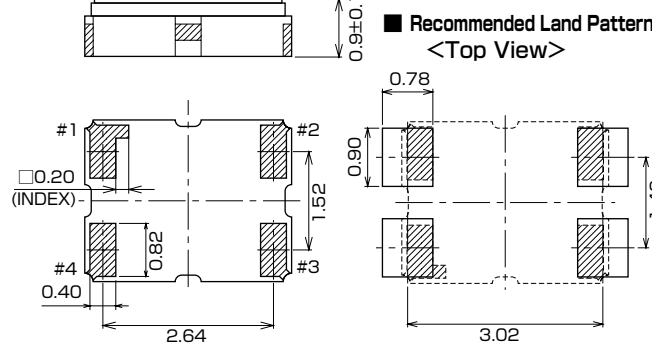
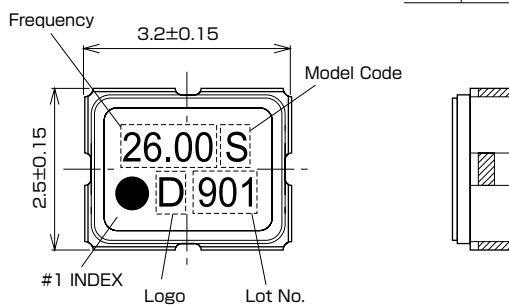
#### DSA211SDA/DSB211SDA/DSB211SDB

Model Code	Pin Connections
G : VC-TCXO (DSA211SDA)	Pin No. Connection
H : TCXO (DSB211SDA)	#1 Vcont(VC-TCXO)/GND(TCXO)
L : TCXO (DSB211SDB Stand-by Function)	#2 ENABLE/DISABLE(Stand-by Function)
	#3 GND
	#4 Output
	#5 Vdd



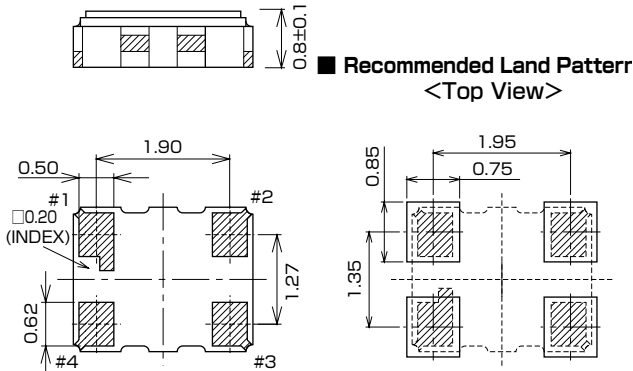
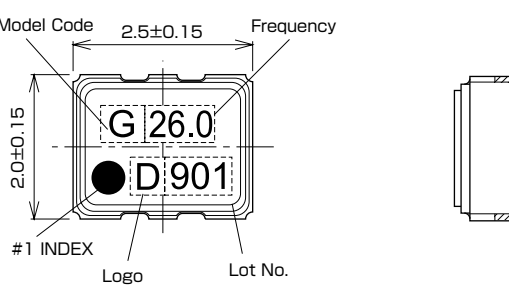
#### DSA321SDA/DSB321SDA/DSB321SDB

Model Code	Pin Connections
S : VC-TCXO (DSA321SDA)	Pin No. Connection
T : TCXO (DSB321SDA)	#1 Vcont(VC-TCXO)/GND(TCXO)
U : TCXO (DSB321SDB Stand-by Function)	#2 ENABLE/DISABLE(Stand-by Function)
	#3 GND
	#4 Output
	#5 Vdd



#### DSA221SDA/DSB221SDA/DSB221SDB

Model Code	Pin Connections
G : VC-TCXO (DSA221SDA)	Pin No. Connection
H : TCXO (DSB221SDA)	#1 Vcont(VC-TCXO)/GND(TCXO)
L : TCXO (DSB221SDB Stand-by Function)	#2 ENABLE/DISABLE(Stand-by Function)
	#3 GND
	#4 Output
	#5 Vdd



#### DSA535SD/DSB535SD

Model Code	Pin Connections
A : VC-TCXO (DSA535SD)	Pin No. Connection
B : TCXO (DSB535SD)	#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

