High-precision SMD VC-TCXO/TCXO

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

NEW

Pb-Free

RoHS Compliant
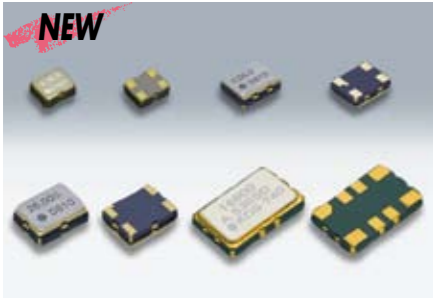
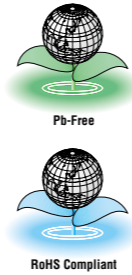Actual size DSA211SDA □ DSA221SDA □
DSA321SDA □ DSA535SD □

■ 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			9.6~40MHz	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	±1.5×10⁻⁶ max.(After 2 reflows)										
vs. Temperature	±1.0×10⁻⁶ max. / −30~+85℃				±0.5×10⁻⁶ max. / −30~+85℃						
	±1.0×10⁻⁶ max. / −40~+85℃(Option)				±0.5×10⁻⁶ max. / −40~+85℃(Option)						
vs. Supply Voltage	±0.2×10⁻⁶ max.(Vdd±5%)										
vs. Load Variation	±0.2×10⁻⁶ max.(10kΩ//10pF±10%)										
vs. Aging	±1.0×10⁻⁶ max. /year										
Start Up Time	2.0ms max.										
Output Enable Time	—				—			2.0ms max.			—
Frequency Control	±3.0×10⁻⁶~±5.0×10⁻⁶ / Vcont=+1.4±1V @Vdd≧+2.6V				—						
Control Sensitivity	±3.0×10⁻⁶~±5.0×10⁻⁶ / 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)

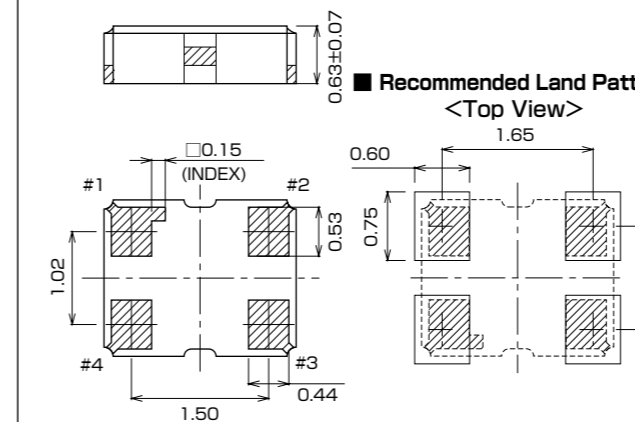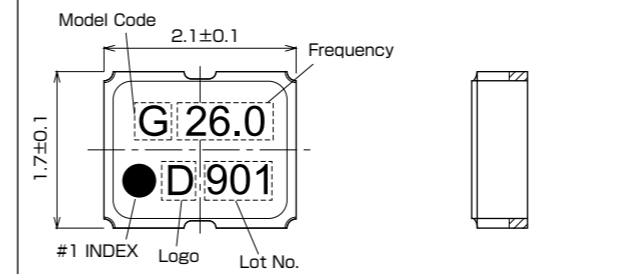Consult our sales representative for other specifications.

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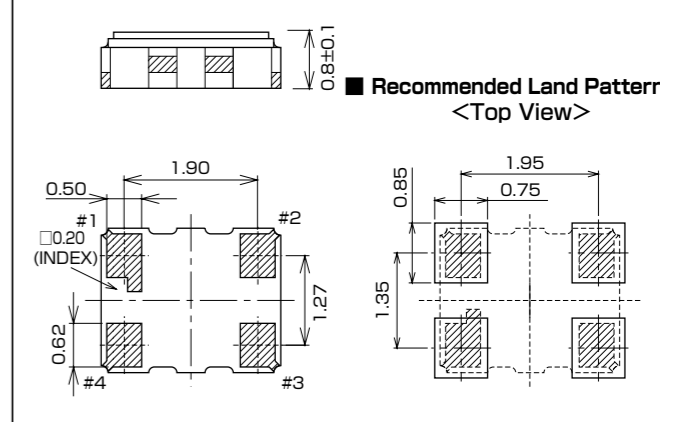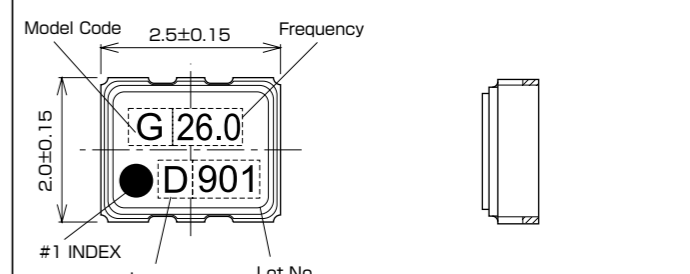## For Mobile communications/Industrial system/GPS

■ Dimensions[mm]

DSA211SDA/DSB211SDA/DSB211SDB

Model Code
G : VC-TCXO (DSA211SDA)
H : TCXO (DSB211SDA)
L : TCXO (DSB211SDB Stand-by Function)

Pin Connections

Pin No.	Connection
#1	Vcont(VC-TCXO)/GND(TCXO) ENABLE/DISABLE(Stand-by Function)
#2	GND
#3	Output
#4	Vdd

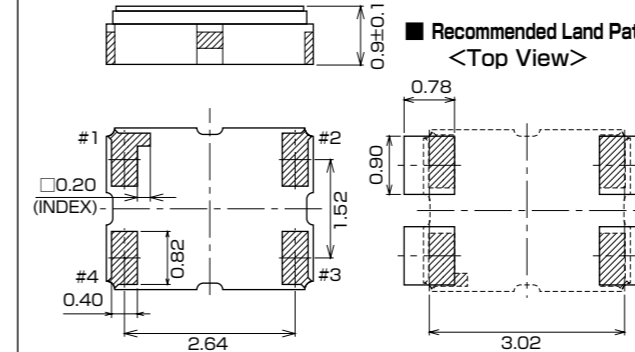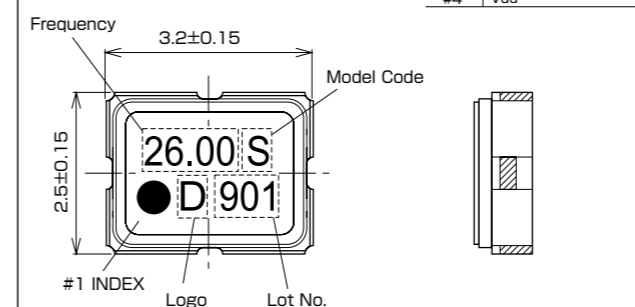### DSA221SDA/DSB221SDA/DSB221SDB

Model Code
G : VC-TCXO (DSA221SDA)
H : TCXO (DSB221SDA)
L : TCXO (DSB221SDB Stand-by Function)

Pin Connections

Pin No.	Connection
#1	Vcont(VC-TCXO)/GND(TCXO) ENABLE/DISABLE(Stand-by Function)
#2	GND
#3	Output
#4	Vdd

■ Recommended Land Pattern
<Top View>

DSA321SDA/DSB321SDA/DSB321SDB

Model Code
S : VC-TCXO (DSA321SDA)
T : TCXO (DSB321SDA)
U : TCXO (DSB321SDB Stand-by Function)

Pin Connections

Pin No.	Connection
#1	Vcont(VC-TCXO)/GND(TCXO) ENABLE/DISABLE(Stand-by Function)
#2	GND
#3	Output
#4	Vdd

■ Recommended Land Pattern
<Top View>

DSA535SD/DSB535SD

Model Code
A : VC-TCXO (DSA535SD)
B : TCXO (DSB535SD)

Pin Connections

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

■ Recommended Land Pattern
<Top View>