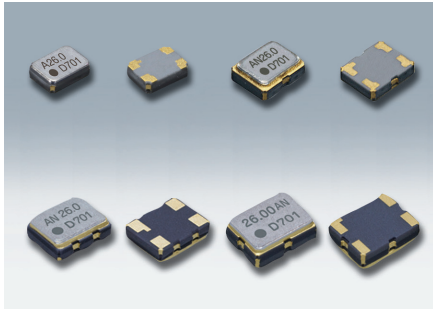


# High-precision SMD VC-TCXO/TCXO (For Automotive)

DSA1612SDN/DSA211SDN/DSA221SDN/DSA321SDN  
 DSB1612SDN, DSB1612SDNB/DSB211SDN, DSB211SDNB/DSB221SDN, DSB221SDNB/DSB321SDN, DSB321SDNB



Actual size DSA1612SDN  DSA211SDN   
 DSA221SDN  DSA321SDN

## Features

- Low voltage operation
- Low phase noise
- Single packaged structure
- AEC-Q100/AEC-Q200 Compliant

## Applications

- Telematics, Satellite radio



[Type]

VC-TCXO	TCXO	TCXO(Stand-by Function)	Size
DSA1612SDN	DSB1612SDN	DSB1612SDNB	1612 size
DSA211SDN	DSB211SDN	DSB211SDNB	2016 size
DSA221SDN	DSB221SDN	DSB221SDNB	2520 size
DSA321SDN	DSB321SDN	DSB321SDNB	3225 size

## Standard Specification

Item	Type	VC-TCXO				TCXO							
		DSA1612SDN	DSA211SDN	DSA221SDN	DSA321SDN	DSB1612SDN	DSB211SDN	DSB221SDN	DSB321SDN	DSB1612SDNB (Stand-by Function)	DSB211SDNB (Stand-by Function)	DSB221SDNB (Stand-by Function)	DSB321SDNB (Stand-by Function)
Frequency Range		16 to 60MHz	12.288 to 52MHz	9.6 to 52MHz		16 to 60MHz	12.288 to 52MHz	9.6 to 52MHz		16 to 60MHz	12.288 to 52MHz	9.6 to 52MHz	
Standard Frequency		19.2MHz/26MHz/38.4MHz/40MHz/52MHz				16.3676MHz/16.367667MHz/16.368MHz/16.369MHz/16.8MHz/26MHz/33.6MHz							
Supply Voltage Range		+1.68 to +3.5V											
Supply Voltage (VCC)		+1.8V/+2.6V/+2.8V/+3.0V/+3.3V											
Current Consumption		+1.5mA max. (f≤26MHz)/+2.0mA max. (26MHz<f≤52MHz)/+2.5mA max. (f≤60MHz)											
Stand-by Current (#1 pin "L" Level)		-						+3μA max.					
Output Level		0.8Vp-p min. (f≤52MHz) (Clipped Sinewave/DC-coupled)											
Output Load		10kΩ//10pF											
Frequency Stability		±1.5×10 <sup>-6</sup> max. (After 2 reflows)											
Tolerance		±1.5×10 <sup>-6</sup> max. (After 2 reflows)											
vs. Temperature		±0.5×10 <sup>-6</sup> max./-40 to +85°C											
vs. Supply Voltage		±0.2×10 <sup>-6</sup> max. (Vcc ±5%)											
vs. Load Variation		±0.2×10 <sup>-6</sup> max. (10kΩ//10pF±10%)											
vs. Aging		±1.0×10 <sup>-6</sup> max./year											
Frequency Control		±3.0×10 <sup>-6</sup> to ±5.0×10 <sup>-6</sup> /Vcont=+1.4V±1V @Vcc≥+2.6V				-							
Control Sensitivity		±3.0×10 <sup>-6</sup> to ±5.0×10 <sup>-6</sup> /Vcont=+0.9V±0.6V @Vcc=+1.8V				-							
Response Slope		Positive						-					
Start up Time		2.0ms max.											
Output Enable Time		-						2.0ms max.					
Phase Noise		[f≤26MHz]				[26MHz<f≤40MHz]				[40MHz<f≤52MHz]			
Offset 100Hz		-115dBc/Hz				-110dBc/Hz				-105dBc/Hz			
Offset 1kHz		-130dBc/Hz				-130dBc/Hz				-125dBc/Hz			
Offset 10kHz		-150dBc/Hz				-150dBc/Hz				-145dBc/Hz			
Offset 100kHz		-155dBc/Hz				-155dBc/Hz				-150dBc/Hz			
Reliability		AEC-Q100/AEC-Q200											
Packing Unit (1)		DSA1612SDN/DSA211SDN/DSA221SDN, DSB1612SDN/DSB211SDN/DSB221SDN, DSB1612SDNB/DSB211SDNB/DSB221SDNB: 3000pcs./reel(φ180) DSA321SDN, DSB321SDN, DSB321SDNB: 2000pcs./reel(φ180)											

(1) Moisture prevention packing is unnecessary.  
 Moisture Sensitivity Level: LEVEL 1 (IPC/JEDEC J-STD-033)

Consult our sales representative for other specifications.

# High-precision SMD VC-TCXO/TCXO (For Automotive)

For Automotive Applications

## Dimensions

[mm]

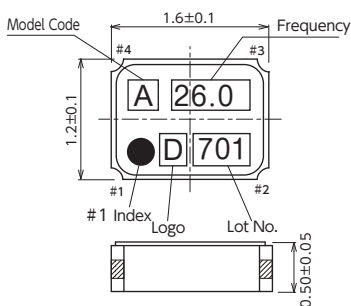
### ■ DSA1612SDN/DSB1612SDN/DSB1612SDNB

#### Model Code

A: VC-TCXO (DSA1612SDN)  
B: TCXO (DSB1612SDN)  
C: TCXO (DSB1612SDNB Stand-by Function)

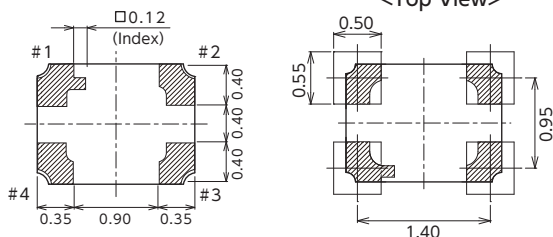
#### Pin Connections

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



#### ■ Recommended Land Pattern

<Top View>



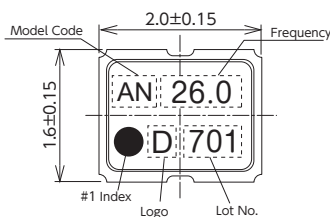
### ■ DSA211SDN/DSB211SDN/DSB211SDNB

#### Model Code

AN: VC-TCXO (DSA211SDN)  
BN: TCXO (DSB211SDN)  
CN: TCXO (DSB211SDNB Stand-by Function)

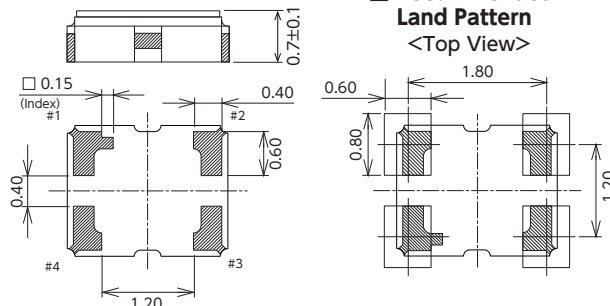
#### Pin Connections

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



#### ■ Recommended Land Pattern

<Top View>



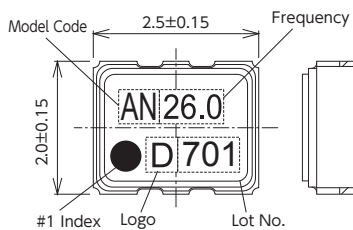
### ■ DSA221SDN/DSB221SDN/DSB221SDNB

#### Model Code

AN: VC-TCXO (DSA221SDN)  
BN: TCXO (DSB221SDN)  
CN: TCXO (DSB221SDNB Stand-by Function)

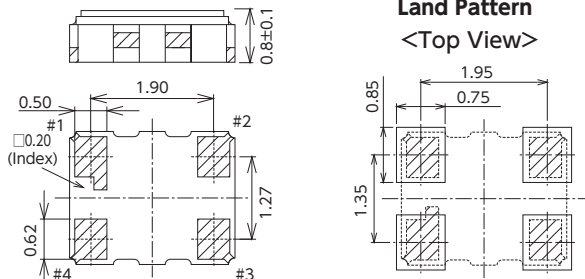
#### Pin Connections

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



#### ■ Recommended Land Pattern

<Top View>



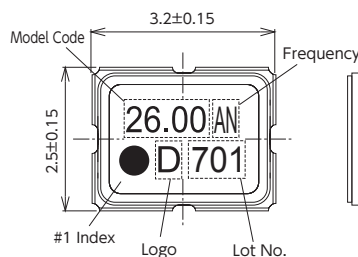
### ■ DSA321SDN/DSB321SDN/DSB321SDNB

#### Model Code

AN: VC-TCXO (DSA321SDN)  
BN: TCXO (DSB321SDN)  
CN: TCXO (DSB321SDNB Stand-by Function)

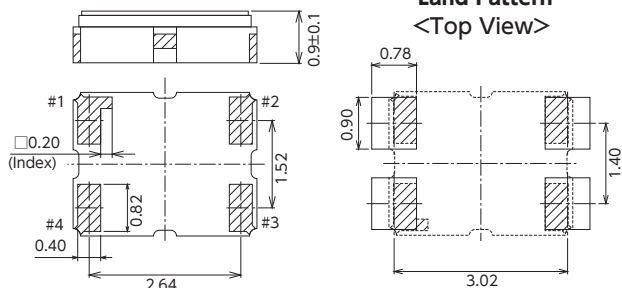
#### Pin Connections

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



#### ■ Recommended Land Pattern

<Top View>



单击下面可查看定价，库存，交付和生命周期等信息

[>>KDS\(大真空\)](#)