Slim Small Smart
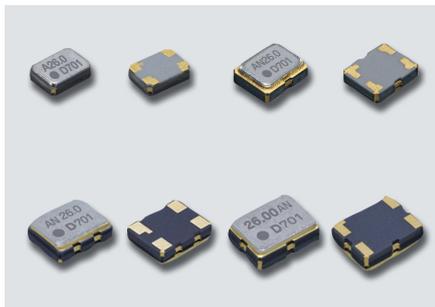
High-precision SMD VC-TCXO/TCXO

DSA1612SDN/DSA211SDN/DSA221SDN/DSA321SDN, DSB1612SDN/DSB211SDN/DSB221SDN/DSB321SDN

■ Features
● Low voltage operation
● Selectable between standard type and GPS/GNSS specialized type (DSB1612SDN)
● Clipped sine wave
● Low phase noise
● Single package structure

■ Applications
● Mobile phones
● GPS/GNSS and Industrial radio communications

Pb-Free

RoHS Compliant

Actual size   DSA1612SDN ◻   DSA211SDN ◻
DSA221SDN ◻   DSA321SDN ◻

[Type]

VC-TCXO	TCXO	Size
DSA1612SDN	DSB1612SDN	1612 size
DSA211SDN	DSB211SDN	2016 size
DSA221SDN	DSB221SDN	2520 size
DSA321SDN	DSB321SDN	3225 size

■ Standard Specification

Type / Item	VC-TCXO				TCXO			
	DSA1612SDN	DSA211SDN	DSA221SDN	DSA321SDN	DSB1612SDN	DSB211SDN	DSB221SDN	DSB321SDN
Frequency Range	9.6 to 60MHz	9.6 to 52MHz	9.6 to 52MHz		9.6 to 60MHz	9.6 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. (26<f≦52MHz) /+2.5mA max. (f≦60MHz)							
Output Level	0.8Vp-p min. (f≦52MHz) (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},±2.5×10^{-6} max./−30 to +85℃ ±1.0×10^{-6},±2.5×10^{-6} max./−40 to +85℃(Option)				±0.5×10^{-6},±2.5×10^{-6} max./−30 to +85℃ ±0.5×10^{-6},±2.5×10^{-6} max./−40 to +85℃(Option)			
vs. Supply Voltage	±0.2×10^{-6} max. (Vcc ±5%)							
vs. Load Variation	±0.2×10^{-6} max. (10kΩ//10pF±10%)							
vs. Aging	±1.0×10^{-6} max./year							
Frequency Control								
Control Sensitivity	±3.0×10^{-6} to ±5.0×10^{-6}/Vcont=+1.4V±1V @Vcc≧+2.6V ±3.0×10^{-6} to ±5.0×10^{-6}/Vcont=+0.9V±0.6V @Vcc=+1.8V				−			
Response Slope	Positive				−			
Start up Time	2.0ms max.							
Phase Noise Offset 100Hz Offset 1kHz Offset 10kHz Offset 100kHz	[f≦26MHz] −115dBc/Hz −130dBc/Hz −150dBc/Hz −155dBc/Hz		[26MHz<f≦40MHz] −110dBc/Hz −130dBc/Hz −150dBc/Hz −155dBc/Hz			[40MHz<f≦52MHz] −105dBc/Hz −125dBc/Hz −145dBc/Hz −150dBc/Hz		
Packing Unit (1)	DSA1612SDN/DSA211SDN/DSA221SDN, DSB1612SDN/DSB211SDN/DSB221SDN : 3000pcs./reel (φ180) DSA321SDN, DSB321SDN : 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

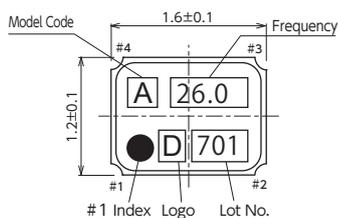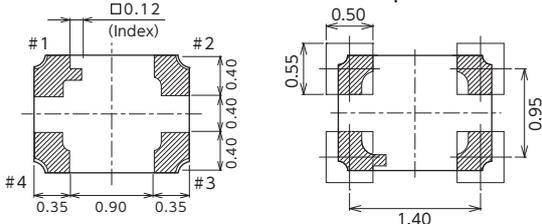## For Mobile communications/Industrial system/GPS/GNSS

■ **Dimensions** [mm]

■ DSA1612SDN/DSB1612SDN

Model Code
A:VC-TCXO(DSA1612SDN)
B:TCXO(DSB1612SDN)

Pin Connections

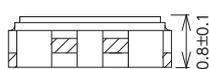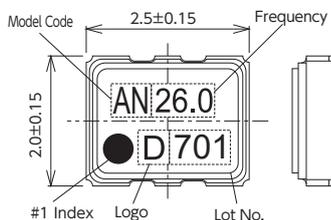| Pin No.	Connection
#1	Vcont(VC-TCXO)/GND(TCXO)
#2	GND
#3	Output
#4	Vcc

■ **Recommended Land Pattern**
<Top View>

■ DSA211SDN/DSB211SDN

Model Code
AN : VC-TCXO (DSA211SDN)
BN : TCXO (DSB211SDN)

Pin Connections

Pin No.	Connection
#1	Vcont(VC-TCXO)/GND(TCXO)
#2	GND
#3	Output
#4	Vcc
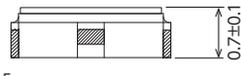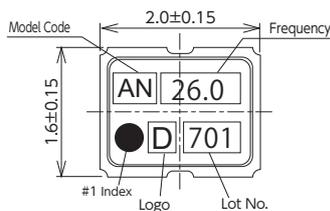
■ **Recommended Land Pattern**
<Top View>
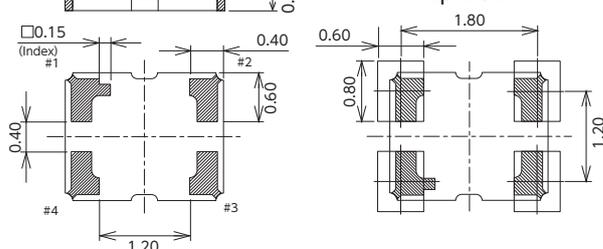
■ DSA221SDN/DSB221SDN

Model Code
AN : VC-TCXO (DSA221SDN)
BN : TCXO (DSB221SDN)

Pin Connections

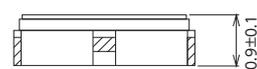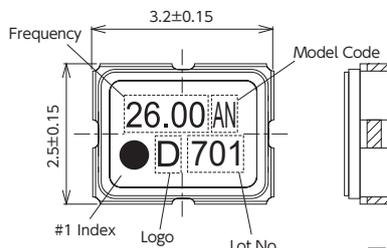| Pin No.	Connection
#1	Vcont(VC-TCXO)/GND(TCXO)
#2	GND
#3	Output
#4	Vcc

■ **Recommended Land Pattern**
<Top View>
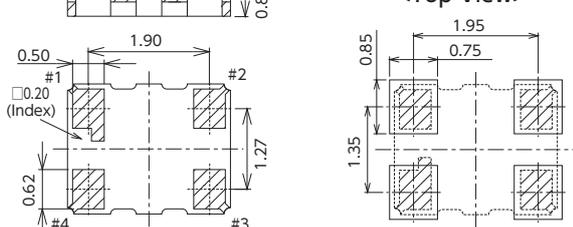
■ DSA321SDN/DSB321SDN

Model Code
AN : VC-TCXO (DSA321SDN)
BN : TCXO (DSB321SDN)

Pin Connections

Pin No.	Connection
#1	Vcont(VC-TCXO)/GND(TCXO)
#2	GND
#3	Output
#4	Vcc

■ **Recommended Land Pattern**
<Top View>