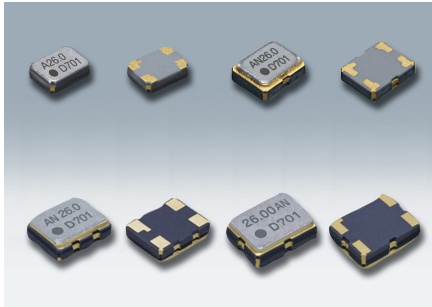


High-precision SMD VC-TCXO/TCXO

DSA1612SDN/DSA211SDN/DSA221SDN/DSA321SDN

DSB1612SDN/DSB211SDN/DSB221SDN/DSB321SDN/DSB1612SDNB/DSB211SDNB/DSB221SDNB/DSB321SDNB



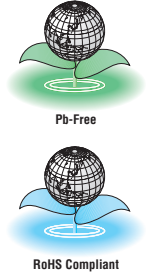
Actual size DSA1612SDN □ DSA211SDN □
 DSA221SDN □ DSA321SDN □

■ Features

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

■ Applications

- Mobile phones
- GPS/GNSS and Industrial radio communications



[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 | | 16~60MHz | 12.288~52MHz | 9.6~52MHz | 16~60MHz | 12.288~52MHz | 9.6~52MHz | 16~60MHz | 12.288~52MHz | 9.6~52MHz | 16~60MHz | 12.288~52MHz | 9.6~52MHz |
| 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~+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) | | | | | | | | | | | |
| Stand-by Current | | - | | | | | | | | +3μA max. | | | |
| 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~+85°C ±1.0×10 ⁻⁶ ±2.5×10 ⁻⁶ max./-40~+85°C(Option) | | | | ±0.5×10 ⁻⁶ ±2.5×10 ⁻⁶ max./-30~+85°C ±0.5×10 ⁻⁶ ±2.5×10 ⁻⁶ max./-40~+85°C(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 ~±5.0×10 ⁻⁶ /Vcont=+1.4V±1V @Vcc≥+2.6V ±3.0×10 ⁻⁶ ~±5.0×10 ⁻⁶ /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 | | | |
| Packing Unit | | 2000pcs./reel(φ180) | | | | | | | | | | | |

Consult our sales representative for other specifications.

High-precision SMD VC-TCXO/TCXO

For Mobile communications/Industrial system/GPS/GNSS

Dimensions

[mm]

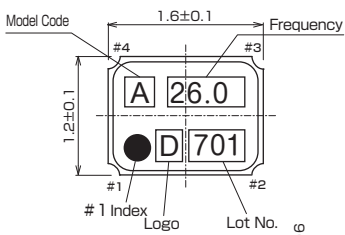
■ DSA1612SDN/DSB1612SDN/DSB1612SDNB

Model Code

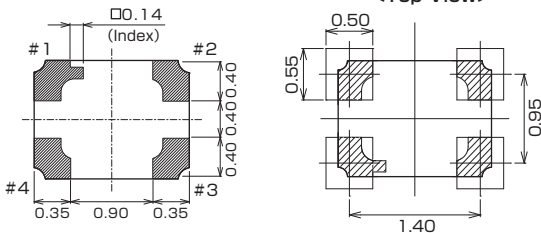
A: VC-TCXO (DSA1612SDN)
 B: TCXO (DSB1612SDN)
 C: TCXO (DSB1612SDNB Stand-by Function)

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>



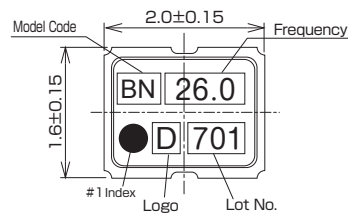
■ DSA211SDN/DSB211SDN/DSB211SDNB

Model Code

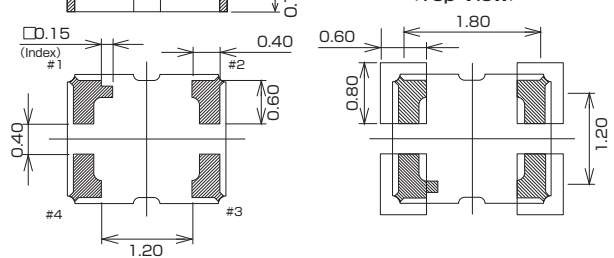
AN: VC-TCXO (DSA211SDN)
 BN: TCXO (DSB211SDN)
 CN: TCXO (DSB211SDNB Stand-by Function)

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>



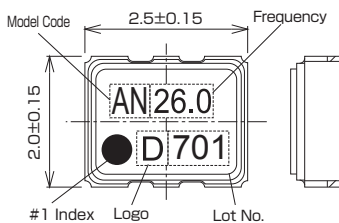
■ DSA221SDN/DSB221SDN/DSB221SDNB

Model Code

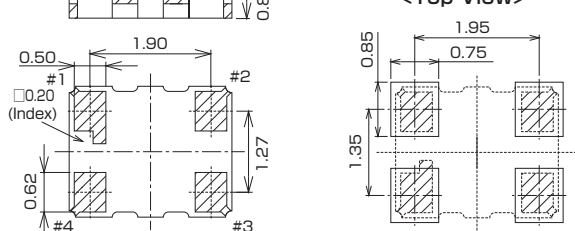
AN: VC-TCXO (DSA221SDN)
 BN: TCXO (DSB221SDN)
 CN: TCXO (DSB221SDNB Stand-by Function)

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>



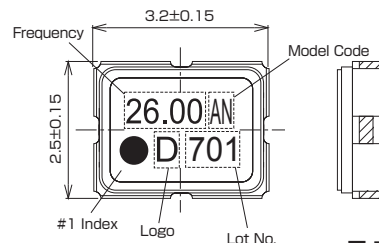
■ DSA321SDN/DSB321SDN/DSB321SDNB

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>

