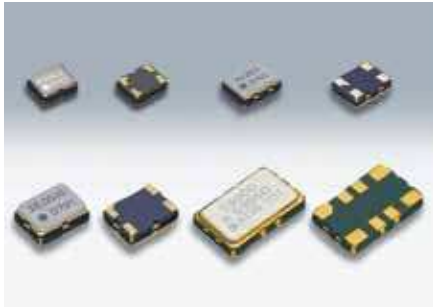


High-precision SMD VC-TCXO/TCXO

DSA211SDM/DSA221SDM/DSA321SDM/DSA535SD/
DSB211SDB/DSB221SDB/DSB321SDB/DSB535SD



Actual size DSA211SDM □ DSA221SDM □
DSA321SDM □ DSA535SD □

■ Features

- Low voltage operation
- 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 |
|-----------|-----------|-------------------------|-----------|
| DSA211SDM | DSB211SDM | DSB211SDB | 2016 size |
| DSA221SDM | DSB221SDM | DSB221SDB | 2520 size |
| DSA321SDM | DSB321SDM | DSB321SDB | 3225 size |
| DSA535SD | DSB535SD | - | 5032 size |

■ Standard Specification

| Item | Type | VC-TCXO | | | | TCXO | | | | | | |
|---------------------------------------|------|---|---------------------|----------------------|------------|---|-----------|-----------|----------------------------------|----------------------------------|----------------------------------|---|
| | | DSA211SDM | DSA221SDM | DSA321SDM | DSA535SD | DSB211SDM | DSB221SDM | DSB321SDM | 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 | 9.6~52MHz | | 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 |
| Supply Voltage Range | | +1.7~+3.5V | | | +2.3~+5.5V | +1.7~+3.5V | | | | | +2.3~+5.5V | |
| Supply Voltage(Vcc) | | +1.8V/ +2.6V/ +2.8V/ +3.0V/ +3.3V | +2.8V/ +3.0V/ +3.3V | | | +1.8V/ +2.6V/ +2.8V/ +3.0V/ +3.3V | | | | | +2.8V/ +3.0V/ +3.3V | |
| Current Consumption | | +1.5 mA max. (f≤26MHz) / +2.0 mA max. (f>26MHz) | | | | | | | | | | |
| Stand-by Current | | - | | | | - | | | +3.0μA 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°C | | | | ±0.5×10 ⁻⁶ max. / -30~+85°C | | | | | | |
| | | ±1.0×10 ⁻⁶ max. / -40~+85°C (Option) | | | | ±0.5×10 ⁻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=+1.4±1V @Vcc≥+2.6V | | | | - | | | | | | |
| | | ±3.0×10 ⁻⁶ ~±5.0×10 ⁻⁶ / Vcont=+0.9±0.6V @Vcc=+1.8V | | | | - | | | | | | |
| Response Slope | | Positive | | | | - | | | | | | |
| Start up Time | | 2.0ms max. | | | | | | | | | | |
| Output Enable Time | | - | | | | - | | | 2.0ms max. | | | - |
| 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]

DSA211SDM/DSB211SDM/DSB211SDB

Model Code
AD : VC-TCXO (DSA211SDM)
BD : TCXO (DSB211SDM)
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 | Vcc |

Model Code: 2.0±0.15, Frequency, 1.6±0.15, AD: 26.0, D: 701, #1 INDEX, Logo, Lot No.

■ Recommended Land Pattern <Top View>

DSA221SDM/DSB221SDM/DSB221SDB

Model Code
AD : VC-TCXO (DSA221SDM)
BD : TCXO (DSB221SDM)
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 | Vcc |

Model Code: 2.5±0.15, Frequency, 2.0±0.15, AD: 26.0, D: 701, #1 INDEX, Logo, Lot No.

■ Recommended Land Pattern <Top View>

DSA321SDM/DSB321SDM/DSB321SDB

Model Code
AD : VC-TCXO (DSA321SDM)
BD : TCXO (DSB321SDM)
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 | Vcc |

Frequency: 3.2±0.15, Model Code: 2.5±0.15, 26.00 AD, D: 701, #1 INDEX, Logo, Lot No.

■ 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 | Vcc |

Model Code: 5.0±0.15, Frequency, Model Code: 3.2±0.15, 26000, A: 535SD, KDS: 701, #1 INDEX, Logo, Lot No.

■ Recommended Land Pattern <Top View>