

TCXO (Temperature-Compensated Crystal Oscillator)

Surface Mount Type

7X

[2.0×1.6×0.75 mm]

7Q

[2.5×2.0×0.70 mm]

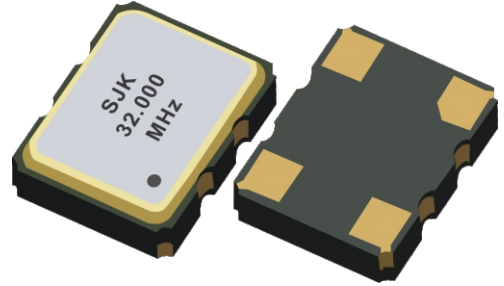
8W

[3.2×2.5×1.00 mm]

TCXO
VC-TCXO
Output
Clipped sinewave
Supply Voltage
1.8V~3.3V
Frequency Range
32.768 kHz~60 MHz

Features

- Ultra smallest size Surface mount package size 2.0×1.6 (2016), 2.5×2.0 (2520), 3.2×2.5 (3225), mm×mm
- Temperature Compensated Crystal Oscillators (TCXO)
- Low voltage operation 1.8V to 3.3V
- Low phase noise
- RoHS Compliant
- Wide frequency range from 32.768 kHz to 60MHz
- VC-TCXO available
- Applications: Mobile phone, GPS, Wireless communications, IoT, LTE, WiMAX, W-LAN, Industrial control, and more



Standard Specifications

| Item / Type | | 7X (SMD 2016 VC-TCXO /TCXO) | 7Q (SMD 2520 VC-TCXO /TCXO) | 7T (SMD 3225 VC-TCXO /TCXO) |
|---------------------------|-------------------------|--|-----------------------------|-----------------------------|
| Dimensions | | 2.0×1.6×0.70 mm | 2.5×2.0×0.70 mm | 3.2×2.5×1.00 mm |
| Output level | | 0.8Vp-p min. (Clipped Sinewave) | | |
| Output load | | 10KΩ // 10pF | | |
| Output frequency range | | 10 MHz~60 MHz | 32.768 kHz~60 MHz | 32.768 kHz~60 MHz |
| Supply voltage | | 1.8 V ~ 3.3 V | | |
| Frequency stability | Tolerance | ±1.5 ppm max. | | |
| | Temperature | ±0.5 ppm ~ ±2.0 ppm max. | | |
| | Supply voltage | ±0.1 ppm max. (Vcc±5%) | | |
| | Load coefficient | ±0.1 ppm max. | | |
| Operating temperature | | -40~+85°C, or specify | | |
| Supply consumption | | 2.0 mA max. | | |
| VC-TCXO | Frequency control range | ±8ppm to ±16ppm | | |
| | Control voltage range | 0.5~2.5V@3.3V, 0.4V~2.4V@2.8V, 0.3~1.5V@1.8V | | |
| | Input impedance | 500 kΩ | | |
| Symmetry | | 45% to 55% | | |
| Start-up time | | 2.0ms max. | | |
| Storage temperature | | -40~+85°C | | |
| Phase noise @ Offset 1kHz | | -135dBc/Hz | -135dBc/Hz | -135dBc/Hz |

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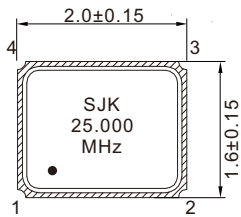
8W

[3.2×2.5×1.00 mm]

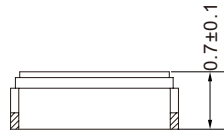
TCXO
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Outline Dimensions (Unit: mm)

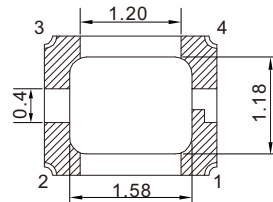
7X (SMD 2016 VC-TCXO / TCXO)



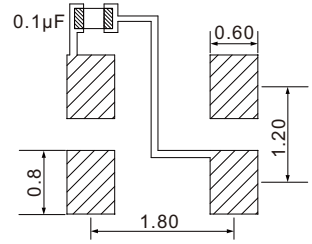
Top View



Side View

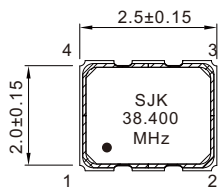


Bottom View

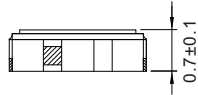


Top View Suggested Layout

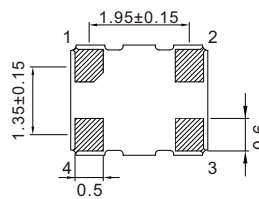
7Q (SMD 2520 VC-TCXO / TCXO)



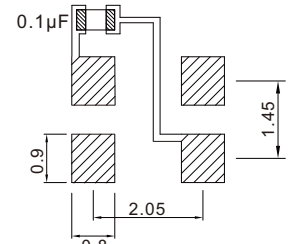
Top View



Side View

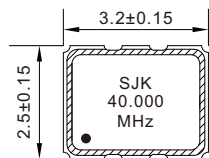


Bottom View

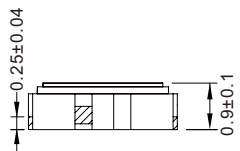


Top View Suggested Layout

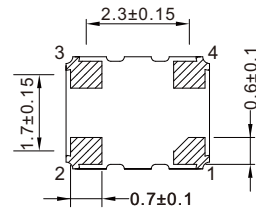
8W (SMD 3225 VC-TCXO / TCXO)



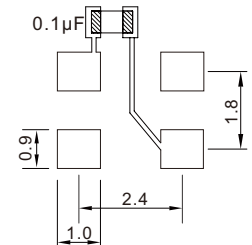
Top View



Side View



Bottom View



Top View Suggested Layout

Pin Map

| Pin | Connection | Function |
|-----|------------|-------------------------|
| 1 | Vcon | VC-TCXO |
| | GND / NC | Ground or No connect |
| 2 | GND | Vcc power supply ground |
| 3 | Output | Oscillator output |
| 4 | Vcc | Power supply voltage |