

TCXO (Temperature-Compensated Crystal Oscillator)

Surface Mount Type

NVT21

[2.0×1.6×0.75 mm]

NVT22

[2.5×2.0×0.70 mm]

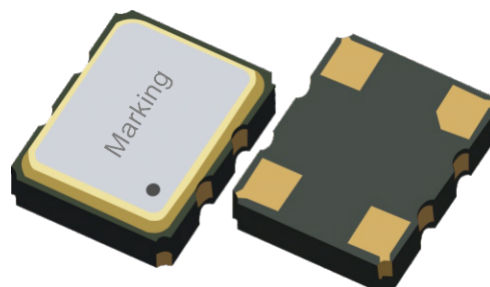
NVT32

[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		NVT21 (SMD 2016 VC-TCXO /TCXO)	NVT22 (SMD 2520 VC-TCXO /TCXO)	NVT32 (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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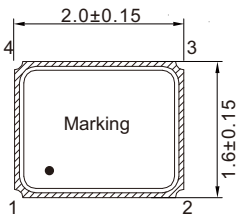
NVT32

[3.2×2.5×1.00 mm]

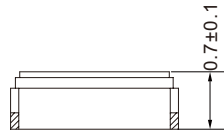
TCXO
VC-TCXO
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Supply Voltage
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Frequency Range
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Outline Dimensions (Unit: mm)

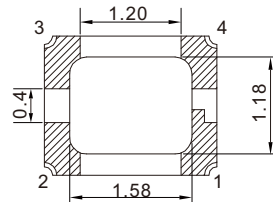
NVT21 (SMD 2016 VC-TCXO / TCXO)



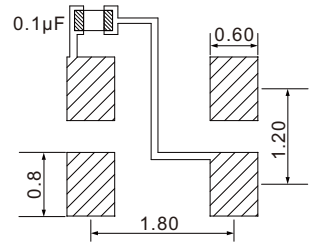
Top View



Side View

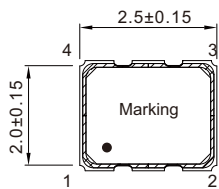


Bottom View

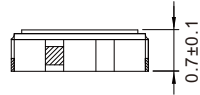


Top View Suggested Layout

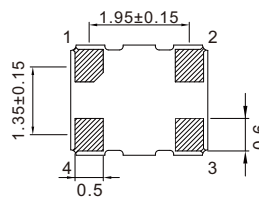
NVT22 (SMD 2520 VC-TCXO / TCXO)



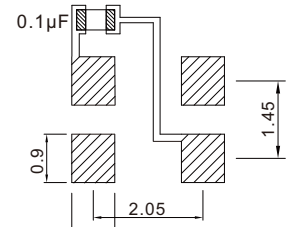
Top View



Side View

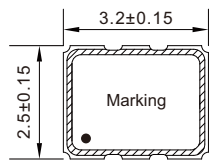


Bottom View

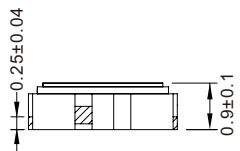


Top View Suggested Layout

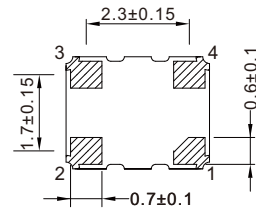
NVT32 (SMD 3225 VC-TCXO / TCXO)



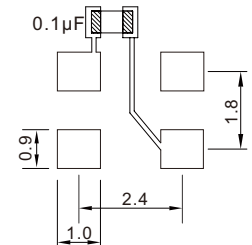
Top View



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