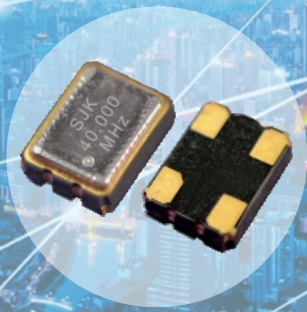
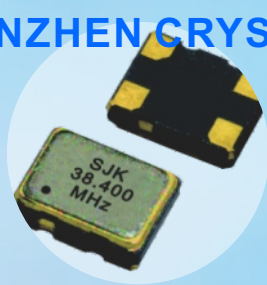




深圳市晶科鑫实业有限公司

SHENZHEN CRYSTAL TECHNOLOGY INDUSTRIAL CO.,LTD



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TCXO /VC-TCXOs

7X Series SMD 2016 TCXO /VC-TCXO	2
7Q Series SMD 2520 TCXO /VC-TCXO	3
7W Series SMD 2520 TCXO	4
8W Series SMD 3225 TCXO /VC-TCXO	5
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9T Series SMD TCXO /VC-TCXO	9
6T Series 14-Pin Full-Size TCXO /VC-TCXO	10

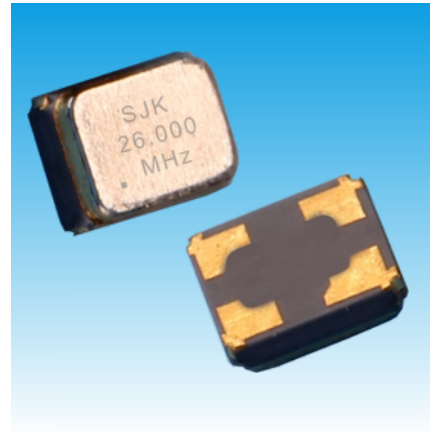
TCXO (Temperature Compensated Crystal Oscillator) **SJK**

Size: 2.0×1.6×0.75 mm

7X Series SMD 2016 TCXO /VC-TCXO

Features

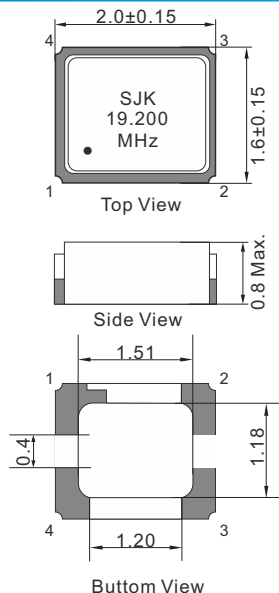
- Output frequency: 10~52MHz
- 2016 size, 0.75mm high SMD TCXO/VCTCXO
- Low voltage operation and low phase noise
- Temperature stability: $\pm 0.5\text{ppm} \sim \pm 2.0\text{ppm}$
- VCTCXO available
- Automatic mounting and reflow soldering
- Applications: Phone, GPS, WiMAX, WLAN, IoT, Wearable electronics, etc.
- RoHS Compliant /Pb Free



Standard Specification

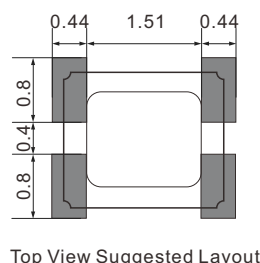
Item /Type		7X (SMD 2016 TCXO /VC-TCXO)
Output Type		Clipped Sinewave
Output Load		10K Ω //10pF
Supply Voltage		1.8~3.3V
Frequency Range		10~52 MHz
Supply Current		2.0mA Max.
Output Level		0.8 Vp-p Min.
Frequency Stability	Tolerance	$\pm 2.0\text{ppm}$ Max. (after 2 reflows)
	vs Temperature	$\pm 0.5\text{ppm} \sim \pm 2.5\text{ppm}$. /-30~+85°C
	vs Supply Voltage	$\pm 0.2\text{ppm}$ Max. (Vcc $\pm 5\%$)
	vs Load	$\pm 0.2\text{ppm}$ Max. (Load varies $\pm 10\%$)
	vs Aging	$\pm 1.0\text{ppm}$ Max. /Year
Auto Frequency Control (AFC) Range*		$\pm 7 \sim \pm 16\text{ppm}$ (1.4 $\pm 1\text{V}$)
Start-up Time		2ms Max.
Operating Temperature		-30~+85°C
Phase Noise @19.2MHz	100Hz	-115dBc/Hz
	1KHz	-135dBc/Hz
	10KHz	-148dBc/Hz
Packing Unit		3000pcs./Reel

Dimensions [mm]



Pin Connections

Pin No.	Connection
1	Vcon(VC-TCXO)/GND(TCXO) Enable /Disable (Stand-by function)
2	GND
3	Output
4	Vcc



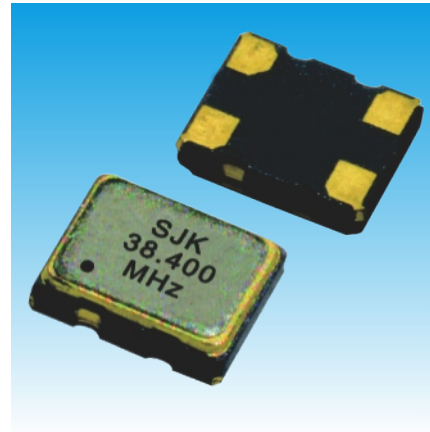
TCXO (Temperature Compensated Crystal Oscillator) **SJK**

Size: 2.5×2.0×0.80 mm

7Q Series SMD 2520 TCXO /VC-TCXO

Features

- Output frequency: 10~52MHz
- 2520 size, 0.70mm high SMD TCXO
- Low voltage operation and low phase noise
- Temperature stability: $\pm 0.5\text{ppm} \sim \pm 2.5\text{ppm}$
- VCTCXO available
- Automatic mounting and reflow soldering
- Applications: Phone, GPS, WiMAX, WLAN, IoT, Wearable electronics, etc.
- RoHS Compliant /Pb Free

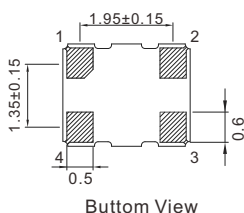
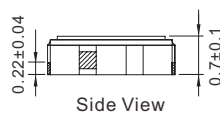
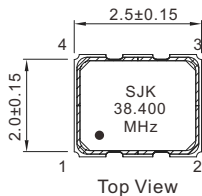


Standard Specification

Item /Type		7Q (SMD 2520 TCXO /VC-TCXO)
Output Type		Clipped Sinewave
Output Load		10K Ω //10pF
Supply Voltage		1.8~3.3V
Frequency Range		10~52 MHz
Supply Current		2.0mA Max.
Output Level		0.8 Vp-p Min.
Frequency Stability	Tolerance	$\pm 2.0\text{ppm}$ Max. (after 2 reflows)
	vs Temperature	$\pm 2.5\text{ppm}$ Max.
	vs Supply Voltage	$\pm 0.2\text{ppm}$ Max. ($V_{cc} \pm 5\%$)
	vs Load	$\pm 0.2\text{ppm}$ Max. (Load Varies $\pm 10\%$)
	vs Aging	$\pm 1.0\text{ppm}$ Max. /Year
Auto Frequency Control (AFC) Range*		$\pm 5 \sim \pm 10\text{ppm}$ ($1.4 \pm 1V$)
Start-up Time		2ms Max.
Operating Temperature		-30~+85°C
Phase Noise @19.2MHz	100Hz	-115dBc/Hz
	1KHz	-135dBc/Hz
	10KHz	-148dBc/Hz
Packing Unit		3000pcs./Reel

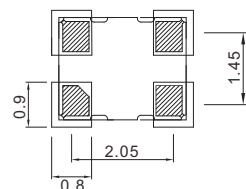
*AFC Range is selective and disable is acceptable.

Dimensions [mm]



Pin Connections

Pin No.	Connection
1	Vcon(VC-TCXO)/GND(TCXO) Enable /Disable (Stand-by function)
2	GND
3	Output
4	Vcc



Top View Suggested Layout

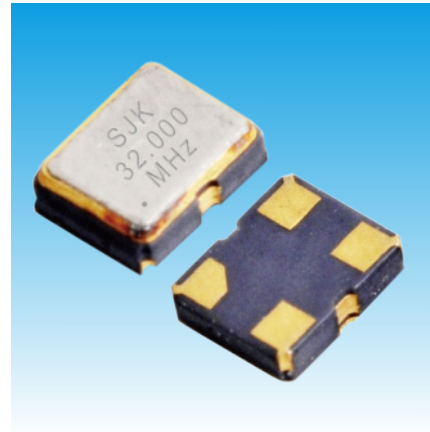
TCXO (Temperature Compensated Crystal Oscillator) **SJK**

Size: 2.5×2.0×0.85 mm

7W Series SMD 2520 TCXO

Features

- LVCMOS output logic, 10~60MHz
- 2520 size, 0.80mm high SMD TCXO
- Operating voltage: 1.8V, 2.5V ,3.3V
- Frequency stability: $\pm 2.5\text{ppm} \sim \pm 5\text{ppm}$
- 3-state function available
- Automatic mounting and reflow soldering
- Applications: Phone, GPS, WiMAX, WLAN, IoT, Smart Grid, etc.
- RoHS Compliant /Pb Free

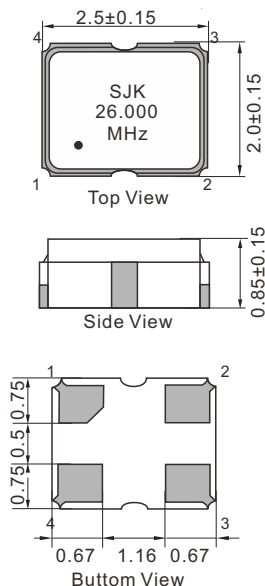


Standard Specification

Item /Type		7W (SMD 2520 TCXO)
Output Type		CMOS
Output Load		15pF
Supply Voltage		1.8~3.3V
Frequency Range		10~60 MHz
Supply Current		10mA Max.
Output Level		0.1Vcc /0.9Vcc
Frequency Stability	Tolerance	$\pm 2.0\text{ppm Max. (after 2 reflows)}$
	vs Temperature	$\pm 2.5 \sim \pm 5.0\text{ppm}$
	vs Aging	$\pm 1.0\text{ppm Max. /Year}$
Duty Cycle		45~55%
Rise /Fall Time		8ns Max.
RMS Phase Jitter		1pS Max.
Start-up Time		5ms Max.
Operating Temperature		-40~+85°C, or specify
Phase Noise @26MHz	100Hz	-110dBc/Hz
	1KHz	-130dBc/Hz
	10KHz	-145dBc/Hz
Packing Unit		3000pcs./Reel

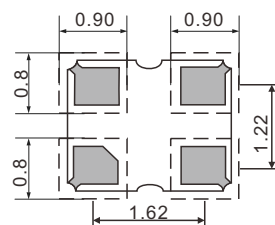
*AFC Range is selective and disable is acceptable.

Dimensions [mm]



Pin Connections

Pin No.	Connection
1	OE (Output Enable)
2	GND
3	Output
4	Vcc



Top View Suggested Layout

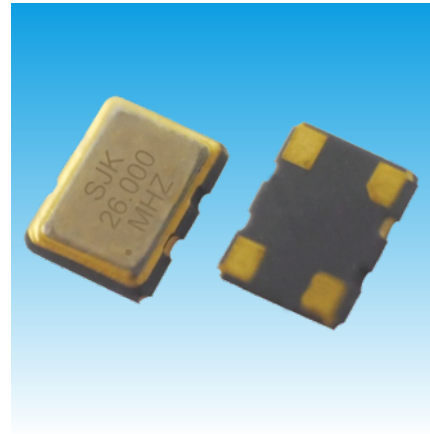
TCXO (Temperature Compensated Crystal Oscillator) **SJK**

Size: 3.2×2.5×0.90 mm

8W Series SMD 3225 TCXO /VC-TCXO

Features

- Output frequency: 10~52MHz
- 3225 size, 0.90mm high SMD TCXO/VC-TCXO
- Low voltage operation and low phase noise
- Temperature stability: $\pm 0.5\text{ppm} \sim \pm 2.0\text{ppm}$
- VC-TCXO available
- Automatic mounting and reflow soldering
- Applications: Phone, GPS, WiMAX, WLAN, IoT, Wearable electronics, etc.
- RoHS Compliant /Pb Free

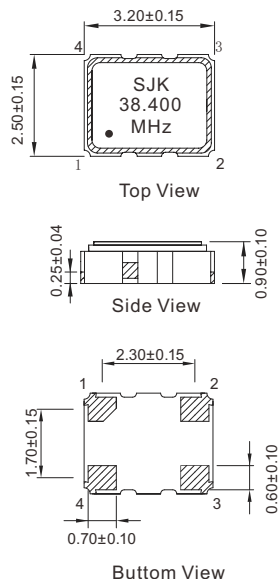


Standard Specification

Item /Type		8W (SMD 3225 TCXO /VC-TCXO)
Output Type		Clipped Sinewave
Output Load		10K Ω //10pF
Supply Voltage		1.8~3.3V
Frequency Range		10~52 MHz
Supply Current		2.0mA Max.
Output Level		0.8 Vp-p Min.
Frequency Stability	Tolerance	$\pm 2.0\text{ppm}$ Max. (after 2 reflows)
	vs Temperature	$\pm 2.5\text{ppm}$ Max.
	vs Supply Voltage	$\pm 0.2\text{ppm}$ Max. ($V_{cc} \pm 5\%$)
	vs Load	$\pm 0.2\text{ppm}$ Max. (Load Varies $\pm 10\%$)
	vs Aging	$\pm 1.0\text{ppm}$ Max. /Year
Auto Frequency Control (AFC) Range*		$\pm 7 \sim \pm 16\text{ppm}$ ($1.4 \pm 1V$)
Start-up Time		2ms Max.
Operating Temperature		-30~+85°C
Phase Noise @19.2MHz	100Hz	-115dBc/Hz
	1KHz	-135dBc/Hz
	10KHz	-148dBc/Hz
Packing Unit		3000pcs./Reel

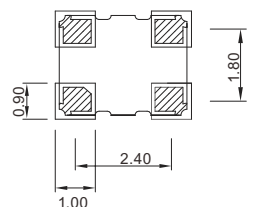
*AFC Range is selective and disable is acceptable.

Dimensions [mm]



Pin Connections

Pin No.	Connection
1	Vcon(VC-TCXO)/GND(TCXO) Enable /Disable (Stand-by function)
2	GND
3	Output
4	Vcc



Top View Suggested Layout

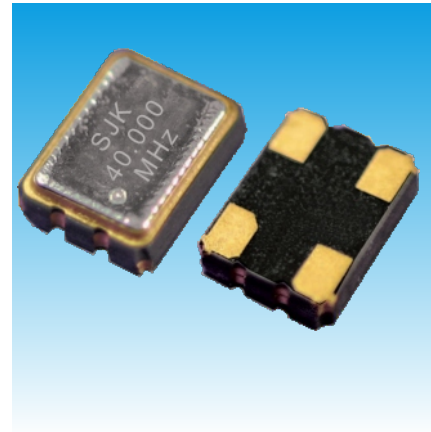
TCXO (Temperature Compensated Crystal Oscillator) **SJK**

Size: 3.2×2.5×0.1.0 mm

7T Series SMD 3225 TCXO

Features

- LVCMOS output logic, 10~60MHz
- 3225 size, 1.00mm high SMD TCXO
- Operating voltage: 1.8V, 2.5V, 3.3V
- Frequency stability: $\pm 2.5\text{ppm} \sim \pm 5\text{ppm}$
- 3-state function available
- Automatic mounting and reflow soldering
- Applications: Phone, GPS, WiMAX, WLAN, IoT, Smart Grid, etc.
- RoHS Compliant /Pb Free

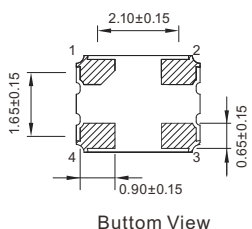
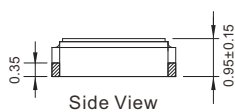
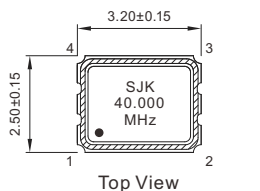


Standard Specification

Item /Type		7T (SMD 3225 TCXO)
Output Type		CMOS
Output Load		15pF
Supply Voltage		1.8~3.3V
Frequency Range		10~60 MHz
Supply Current		10mA Max.
Output Level		0.1V _{cc} /0.9V _{cc}
Frequency Stability	Tolerance	$\pm 2.0\text{ppm Max. (after 2 reflows)}$
	vs Temperature	$\pm 2.5 \sim \pm 5.0\text{ppm}$
	vs Aging	$\pm 1.0\text{ppm Max. /Year}$
Duty Cycle		45~55%
Rise /Fall Time		8ns Max.
RMS Phase Jitter		1pS Max.
Start-up Time		5ms Max.
Operating Temperature		-40~+85°C, or specify
Phase Noise @26MHz	100Hz	-110dBc/Hz
	1KHz	-130dBc/Hz
	10KHz	-145dBc/Hz
Packing Unit		3000pcs./Reel

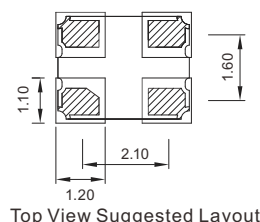
*AFC Range is selective and disable is acceptable.

Dimensions [mm]



Pin Connections

Pin No.	Connection
1	OE (Output Enable)
2	GND
3	Output
4	V _{cc}



TCXO (Temperature Compensated Crystal Oscillator)

Size: 5.0×3.2×1.50 mm

5T Series SMD 5032 TCXO /VC-TCXO

Features

- Output frequency: 10~52MHz
- 5032 size, 1.5mm high SMD TCXO/VC-TCXO
- CMOS and Clipped Sine wave output
- Temperature stability: $\pm 0.05\text{ppm} \sim \pm 0.5\text{ppm}$
- Voltage control function available
- Automatic mounting and reflow soldering
- Applications: Base station, Stratum 3, Femtocell, etc.
- RoHS Compliant /Pb Free

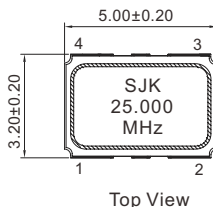


Standard Specification

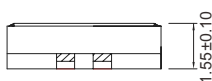
Item /Type		5T (SMD 5032 TCXO /VC-TCXO)	
Output Type		Clipped Sinewave	CMOS
Output Load		10K Ω //10pF	15pF
Supply Voltage		3.3V /5.0V	
Frequency Range		10~52 MHz	
Supply Current		3.5mA Max.	8mA Max.
Output Level		0.8 Vp-p Min.	0.1Vcc /0.9Vcc
Frequency Stability	Tolerance	$\pm 2.0\text{ppm}$ Max. (after 2 reflows)	
	vs Temperature	$\pm 0.5\text{ppm}$ Max.	$\pm 0.5\text{ppm}$ Max.
	vs Supply Voltage (Vcc $\pm 5\%$)	$\pm 0.3\text{ppm}$ Max.	$\pm 0.3\text{ppm}$ Max.
	vs Load (Load Varies $\pm 10\%$)	$\pm 0.2\text{ppm}$ Max.	$\pm 0.2\text{ppm}$ Max.
	vs Aging	$\pm 1.0\text{ppm}$ Max. /Year	
Auto Frequency Control (AFC) Range*		$\pm 5 \sim \pm 10\text{ppm}$ (1.5 ± 1 V)	
Start-up Time		2ms Max.	5ms Max.
Operating Temperature		-30~+85°C	
Phase Noise @10MHz	100Hz	-125dBc/Hz	-125dBc/Hz
	1KHz	-135dBc/Hz	-130dBc/Hz
	10KHz	-150dBc/Hz	-150dBc/Hz
Packing Unit		1000pcs./Reel	

*AFC Range is selective and disable is acceptable.

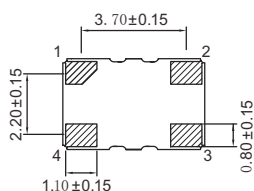
Dimensions [mm]



Top View



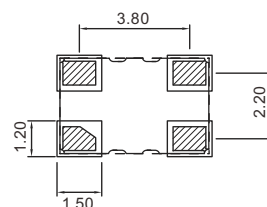
Side View



Bottom View

Pin Connections

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



Top View Suggested Layout

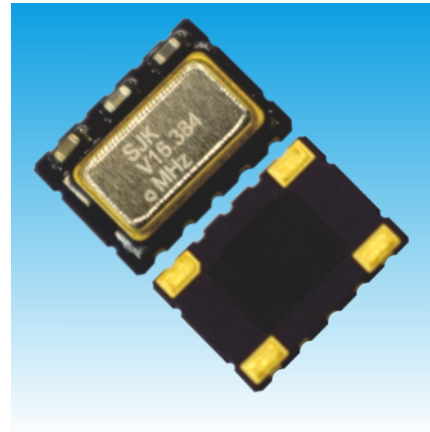
TCXO (Temperature Compensated Crystal Oscillator)

Size: 7.0×5.0×2.00 mm

8T Series SMD 7050 TCXO /VC-TCXO

Features

- Output frequency: 5~52MHz
- 7050 size, 2.0mm high
- CMOS and Clipped Sine wave output
- Temperature stability: $\pm 0.05\text{ppm} \sim \pm 2\text{ppm}$
- VCTCXO available
- Automatic mounting and reflow soldering
- Applications: Base station, Stratum 3, Femtocell, etc.
- RoHS Compliant /Pb Free

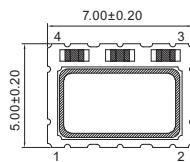


Standard Specification

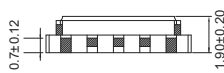
Item /Type		8T (SMD 7050 TCXO /VC-TCXO)	
Output Type		Clipped Sinewave	CMOS
Output Load		10K Ω //10pF	15pF
Supply Voltage		2.5V /3.3V /5.0V	
Frequency Range		5~52 MHz	
Supply Current		3.5mA Max.	6mA Max.
Output Level		0.8 Vp-p Min.	0.1Vcc /0.9Vcc
Frequency Stability	Tolerance	$\pm 2.0\text{ppm}$ Max. (after 2 reflows)	
	vs Temperature	$\pm 0.2\text{ppm}$	$\pm 0.2\text{ppm}$
	vs Supply Voltage (Vcc $\pm 5\%$)	$\pm 0.1\text{ppm}$ Max.	$\pm 0.05\text{ppm}$ Max.
	vs Load (Load Varies $\pm 10\%$)	$\pm 0.05\text{ppm}$ Max.	$\pm 0.05\text{ppm}$ Max.
	vs Aging	$\pm 1.0\text{ppm}$ Max. /Year	
Auto Frequency Control (AFC) Range*		$\pm 5 \sim \pm 10\text{ppm}$ (1.5 $\pm 1\text{V}$)	
Start-up Time		2ms Max.	2ms Max.
Operating Temperature		-30~+85°C	
Phase Noise @10MHz	100Hz	-130dBc/Hz	
	1KHz	-145dBc/Hz	
	10KHz	-154dBc/Hz	
Packing Unit		1000pcs./Reel	

*AFC Range is selective and disable is acceptable.

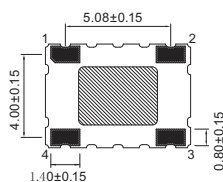
Dimensions [mm]



Top View



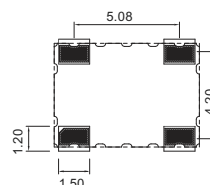
Side View



Bottom View

Pin Connections

Pin No.	Connection
1	Vcon(VC-TCXO)/GND(TCXO) Enable /Disable (Stand-by function)
2	GND
3	Output
4	Vcc



Top View Suggested Layout

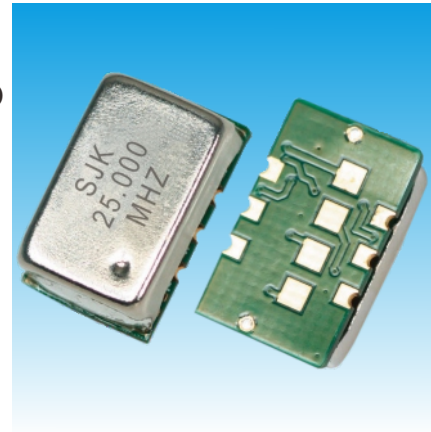
TCXO (Temperature Compensated Crystal Oscillator)

Size: 14.3×8.7×5.00 mm

9T Series SMD TCXO /VC-TCXO

Features

- Output frequency: 5~40MHz
- 1490 size, 5.0mm high, SMD TCXO/VC-TCXO
- TTL/CMOS or Clipped Sine wave output
- Metal cover, FR-4 PCB based
- VCTCXO available
- Low current option
- Applications: Large-Scale equipment, Mobile communications, etc.
- RoHS Compliant /Pb Free

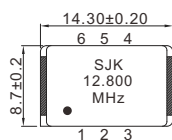


Standard Specification

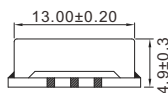
Item /Type		9T (SMD TCXO /VC-TCXO)	
Output Type		Clipped Sinewave	CMOS
Output Load		10KΩ //10pF	15pF
Supply Voltage		3.3V /5.0V	
Frequency Range		5~40 MHz	
Supply Current		3.5mA Max.	6mA Max.
Output Level		0.8 Vp-p Min.	0.1Vcc /0.9Vcc
Frequency Stability	Tolerance	±2.0ppm Max. (after 2 reflows)	
	vs Temperature	±0.5ppm Max.	
	vs Supply Voltage (Vcc±5%)	±0.2ppm Max.	
	vs Load (Load Varies±10%)	±0.2ppm Max.	
	vs Aging	±1.0ppm Max. /Year	
Auto Frequency Control (AFC) Range*		±5~±10ppm (1.5±1V)	
Start-up Time		2ms Max.	2ms Max.
Operating Temperature		-40~+85°C, or specify	
Phase Noise @12.8MHz	100Hz	-120dBc/Hz	
	1KHz	-140dBc/Hz	
	10KHz	-148dBc/Hz	
Packing Unit		200pcs./Reel	

*AFC Range is selective and disable is acceptable.

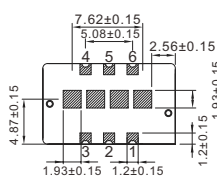
Dimensions [mm]



Top View



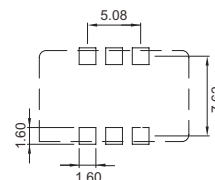
Side View



Bottom View

Pin Connections

Pin No.	Connection
1	Vcon(VC-TCXO)/GND(TCXO) Enable /Disable (Stand-by function)
2	GND
3	Output
4	Vcc



Top View Suggested Layout

TCXO (Temperature Compensated Crystal Oscillator) **SJK**

Size: 20.4×12.8×7.8 mm

6T Series DIP TCXO /VC-TCXO

Features

- Output frequency: 1.25~52MHz
- Typical 20.4×12.8×7.8 mm
- CMOS or Clipped Sine wave output
- Double sealed metal case and high reliability
- VCTCXO available
- Hermetically 14 Pin DIP package
- Applications: Large-Scale equipment, Military, Test equipment, Avionics, etc.
- RoHS Compliant /Pb Free

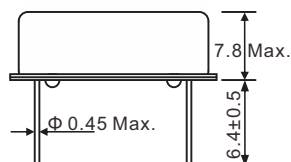
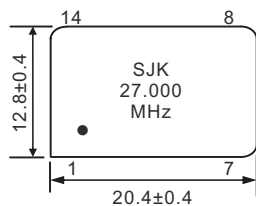


Standard Specification

Item /Type		6T (DIP TCXO /VC-TCXO)	
Output Type		Clipped Sinewave	CMOS
Output Load		10KΩ //10pF	15pF
Supply Voltage		2.8V /3.3V	
Frequency Range		10~52 MHz	1.25~52 MHz
Supply Current		4.0mA Max.	25mA Max.
Output Level		0.8 Vp-p Min.	0.1Vcc /0.9Vcc
Frequency Stability	Tolerance	±2.0ppm Max. (after 2 reflows)	
	vs Temperature	±1.0ppm Max.	
	vs Supply Voltage (Vcc±5%)	±0.2ppm Max.	
	vs Load (Load Varies±10%)	±0.2ppm Max.	
	vs Aging	±1.0ppm Max. /Year	
Auto Frequency Control (AFC) Range*		±5~±10ppm (1.5±1V)	
Start-up Time		2ms Max.	2ms Max.
Operating Temperature		-40~+85°C, or specify	
Phase Noise @13MHz	100Hz	-115dBc/Hz	
	1KHz	-135dBc/Hz	
	10KHz	-148dBc/Hz	
Packing Unit		100pcs.	

*AFC Range is selective and disable is acceptable.

Dimensions [mm]



Pin Connections

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

