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VCXO

Voltage Controlled Crystal Oscillator

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VCXO (Voltage Controlled Crystal Oscillator)

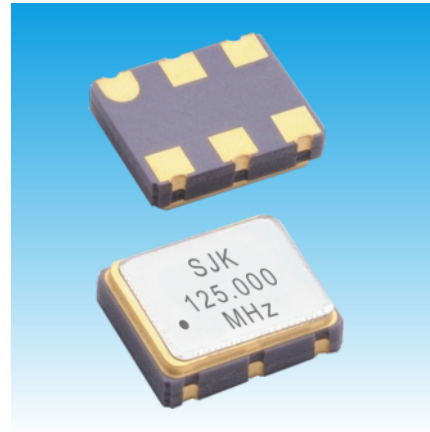


Size: 3.2×2.5×0.95 mm

3S Series SMD 3225 VCXOs

Features

- Voltage controlled crystal oscillator (VCXO)
- Frequency range from 50MHz to 200MHz
- CMOS output
- Excellent low phase noise and jitter
- 3-state function available
- Automatic mounting and reflow soldering
- Applications: Base station, Ethernet, Server SONET, Femtocell, etc
- RoHS Compliant /Pb Free

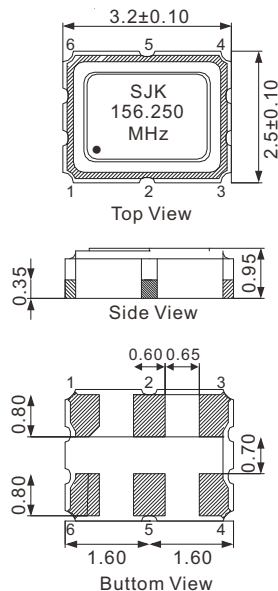


Standard Specification

Item /Type	3S (SMD 3225 VCXO)
Output Type	CMOS
Output Load	15pF, or specify
Supply Voltage	3.3V
Frequency Range	50~200 MHz
Supply Current	60mA Max.
Frequency Stability	±25ppm, ±50ppm, or specify
Operating Temperature	-40~+85°C, or specify
Storage Temperature	-55~+125°C
Voltage Vol (Max.) /Voh (Min.)	0.1 VDD /0.9VDD
Rise (Tr) /Fall (Tf) Time	5ns Max.
Start-up Time	10ms Max.
Duty Cycle	45~55%
Absolute Pulling Range (APR)*	±50ppm Min., or specify
Nominal Control Voltage	0.5 VDD
Control Voltage Range	0~VDD
Linearity	10% Max.
Phase Jitter (12KHz~20MHz)	1pS Max.
Packing Unit	3000pcs./Reel

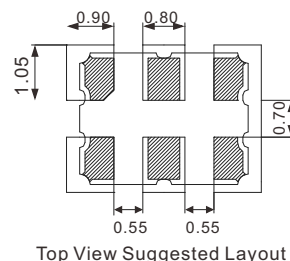
*APR=(Pull Range)-(Frequency tolerance at 25°C, variation over temperature, supply voltage variation, and aging.)

Dimensions [mm]



Pin Connections

Pin No.	Connection
1	Vcon
2	OE or NC
3	GND
4	Output
5	Comp. Output
6	Vcc



SMD 3225 LVPECL VCXO

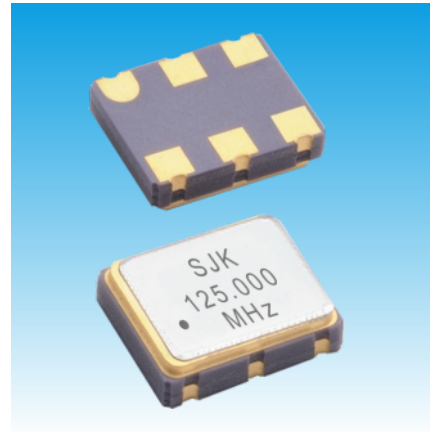


Size: 3.2×2.5×0.95 mm

3P Series SMD 3225 VCXOs

Features

- Voltage controlled crystal oscillator (VCXO)
- Frequency range from 50MHz to 200MHz
- LVPECL output
- Excellent low phase noise and jitter
- 3-state function available
- Automatic mounting and reflow soldering
- Applications: Base station, Ethernet, Server SONET, Femtocell, etc
- RoHS Compliant /Pb Free

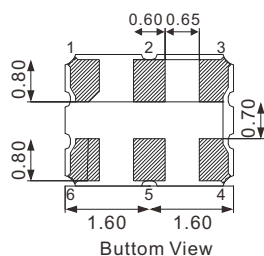
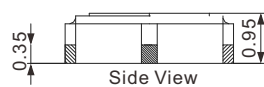
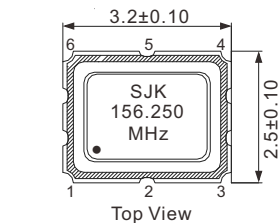


Standard Specification

Item /Type	3P (SMD 3225 VCXO)
Output Type	LVPECL
Output Load	50Ω to VDD-2V
Supply Voltage	3.3V
Frequency Range	50~200 MHz
Supply Current	80mA Max.
Frequency Stability	±25ppm, ±50ppm, or specify
Operating Temperature	-40~+85°C, or specify
Storage Temperature	-55~+125°C
Voltage Vol (Max.) /Voh (Min.)	VDD-1.62V/VDD-1.025V
Rise (Tr) /Fall (Tf) Time	1ns Max.
Start-up Time	10ms Max.
Duty Cycle	45~55%
Absolute Pulling Range (APR)*	±50ppm Min., or specify
Nominal Control Voltage	0.5 VDD
Control Voltage Range	0~VDD
Linearity	10% Max.
Phase Jitter (12KHz~20MHz)	1pS Max.
Packing Unit	3000pcs./Reel

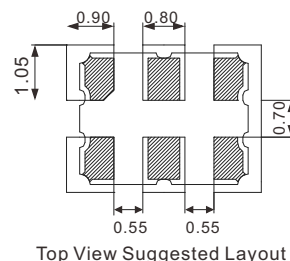
*APR=(Pull Range)-(Frequency tolerance at 25°C,variation over temperature,supply voltage variation,and aging.)

Dimensions [mm]



Pin Connections

Pin No.	Connection
1	Vcon
2	OE or NC
3	GND
4	Output
5	Comp. Output
6	Vcc



VCXO (Voltage Controlled Crystal Oscillator)



Size: 5.0×3.2×1.2 mm

5S Series SMD 5032 VCXOs

Features

- Voltage controlled crystal oscillator (VCXO)
- Frequency range from 50MHz to 200MHz
- CMOS output
- Excellent low phase noise and jitter
- 3-state function available
- Automatic mounting and reflow soldering
- Applications: Base station, Ethernet, Server SONET, Femtocell, etc
- RoHS Compliant /Pb Free

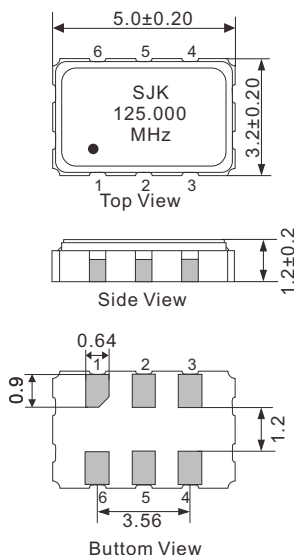


Standard Specification

Item /Type	5S (SMD 5032 VCXO)
Output Type	CMOS
Output Load	15pF, or specify
Supply Voltage	3.3V
Frequency Range	50~200 MHz
Supply Current	60mA Max.
Frequency Stability	±25ppm, ±50ppm, or specify
Operating Temperature	-40~+85°C, or specify
Storage Temperature	-55~+125°C
Voltage Vol (Max.) /Voh (Min.)	0.1 VDD /0.9VDD
Rise (Tr) /Fall (Tf) Time	5ns Max.
Start-up Time	10ms Max.
Duty Cycle	45~55%
Absolute Pulling Range (APR)*	±50ppm Min., or specify
Nominal Control Voltage	0.5 VDD
Control Voltage Range	0~VDD
Linearity	10% Max.
Phase Jitter (12KHz~20MHz)	1pS Max.
Packing Unit	1000pcs./Reel

*APR=(Pull Range)-(Frequency tolerance at 25°C,variation over temperature,supply voltage variation,and aging.)

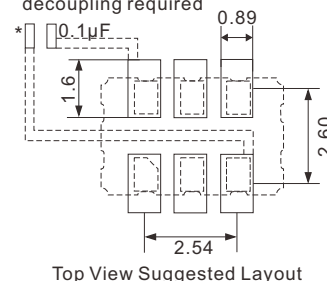
Dimensions [mm]



Pin Connections

Pin No.	Connection
1	Vcon
2	OE or NC
3	GND
4	Output
5	Comp. Output
6	Vcc

* External high frequency power supply decoupling required



SMD 5032 LVPECL VCXO



Size: 5.0×3.2×1.2 mm

5P Series SMD 5032 VCXOs

Features

- Voltage controlled crystal oscillator (VCXO)
- Frequency range from 50MHz to 200MHz
- LVPECL output
- Excellent low phase noise and jitter
- 3-state function available
- Automatic mounting and reflow soldering
- Applications: Base station, Ethernet, Server SONET, Femtocell, etc
- RoHS Compliant /Pb Free

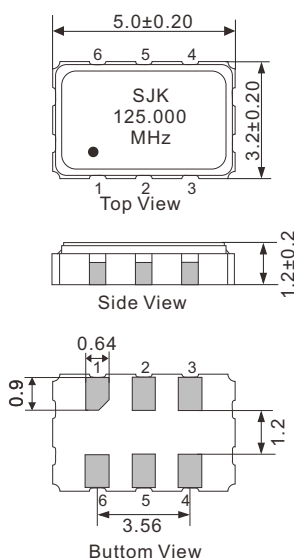


Standard Specification

Item /Type	5P (SMD 5032 VCXO)
Output Type	LVPECL
Output Load	50Ω to VDD-2V
Supply Voltage	3.3V
Frequency Range	50~200 MHz
Supply Current	80mA Max.
Frequency Stability	±25ppm, ±50ppm, or specify
Operating Temperature	-40~+85°C, or specify
Storage Temperature	-55~+125°C
Voltage Vol (Max.) /Voh (Min.)	VDD-1.62V/VDD-1.025V
Rise (Tr) /Fall (Tf) Time	1ns Max.
Start-up Time	10ms Max.
Duty Cycle	45~55%
Absolute Pulling Range (APR)*	±50ppm Min., or specify
Nominal Control Voltage	0.5 VDD
Control Voltage Range	0~VDD
Linearity	10% Max.
Phase Jitter (12KHz~20MHz)	1pS Max.
Packing Unit	1000pcs./Reel

*APR=(Pull Range)-(Frequency tolerance at 25°C,variation over temperature,supply voltage variation,and aging.)

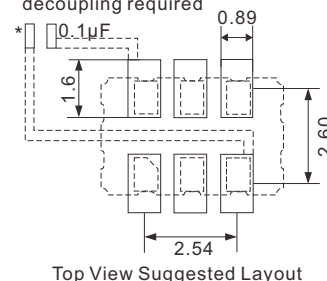
Dimensions [mm]



Pin Connections

Pin No.	Connection
1	Vcon
2	OE or NC
3	GND
4	Output
5	Comp. Output
6	Vcc

* External high frequency power supply decoupling required



SMD 5032 LVDS VCXO



Size: 5.0×3.2×1.2 mm

5V Series SMD 5032 VCXOs

Features

- Voltage controlled crystal oscillator (VCXO)
- Frequency range from 50MHz to 200MHz
- LVDS output
- Excellent low phase noise and jitter
- 3-state function available
- Automatic mounting and reflow soldering
- Applications: Base station, Ethernet, Server SONET, Femtocell, etc
- RoHS Compliant /Pb Free

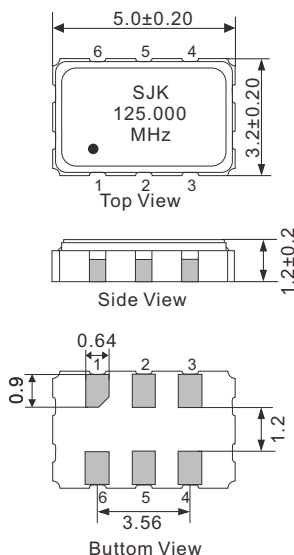


Standard Specification

Item /Type	5V (SMD 5032 VCXO)
Output Type	LVDS
Output Load	100Ω
Supply Voltage	3.3V
Frequency Range	50~200 MHz
Supply Current	80mA Max.
Frequency Stability	±25ppm, ±50ppm, or specify
Operating Temperature	-40~+85°C, or specify
Storage Temperature	-55~+125°C
Voltage Vol (Max.) /Voh (Min.)	0.9V/1.6V
Rise (Tr) /Fall (Tf) Time	1ns Max.
Start-up Time	10ms Max.
Duty Cycle	45~55%
Absolute Pulling Range (APR)*	±50ppm Min., or specify
Nominal Control Voltage	0.5 VDD
Control Voltage Range	0~VDD
Linearity	10% Max.
Phase Jitter (12KHz~20MHz)	1pS Max.
Packing Unit	1000pcs./Reel

*APR=(Pull Range)-(Frequency tolerance at 25°C,variation over temperature,supply voltage variation,and aging.)

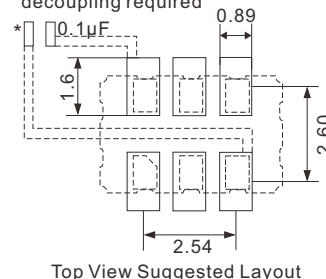
Dimensions [mm]



Pin Connections

Pin No.	Connection
1	Vcon
2	OE or NC
3	GND
4	Output
5	Comp. Output
6	Vcc

* External high frequency power supply decoupling required



VCXO (Voltage Controlled Crystal Oscillator)

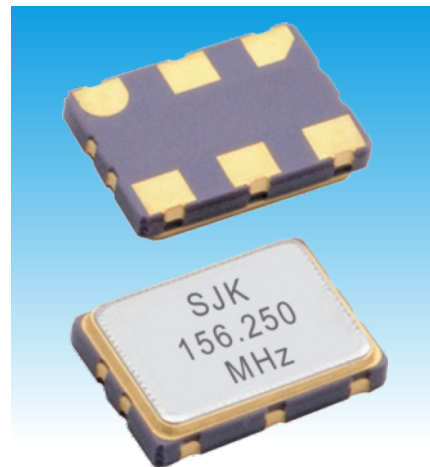


Size: 7.0×5.0×1.3 mm

6S Series SMD 7050 VCXOs

Features

- Voltage controlled crystal oscillator (VCXO)
- Frequency range from 1MHz to 200MHz
- CMOS output
- Excellent low phase noise and jitter
- 3-state function available
- Automatic mounting and reflow soldering
- Applications: Base station, Ethernet, Server SONET, Femtocell, etc
- RoHS Compliant /Pb Free

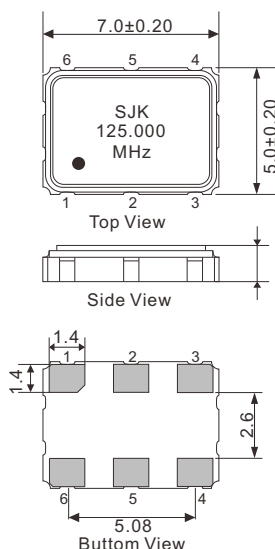


Standard Specification

Item /Type	6S (SMD 7050 VCXO)	
Output Type	CMOS	
Output Load	15pF~30pF	15pF or specify
Supply Voltage	3.3V 5V	3.3V
Frequency Range	1~59 MHz	50~200 MHz
Supply Current	10~45mA Max.	60mA Max.
Frequency Stability	±25ppm, ±50ppm, or specify	
Operating Temperature	-40~+85°C, or specify	
Storage Temperature	-55~+125°C	
Voltage Vol (Max.) /Voh (Min.)	0.1VDD/0.9VDD	
Rise (Tr) /Fall (Tf) Time	5ns Max.	
Start-up Time	10ms Max.	
Duty Cycle	40-60%	45~55%
Absolute Pulling Range (APR)*	±50ppm Min., or specify	
Nominal Control Voltage	0.5 VDD	
Control Voltage Range	0~VDD	
Linearity	10% Max.	
Phase Jitter (12KHz~20MHz)	1pS Max.	
Packing Unit	1000pcs./Reel	

*APR=(Pull Range)-(Frequency tolerance at 25°C,variation over temperature,supply voltage variation,and aging.)

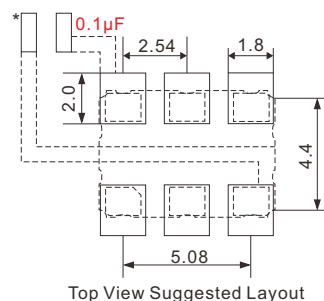
Dimensions [mm]



Pin Connections

Pin No.	Connection
1	OE or NC
2	OE or NC
3	GND
4	Output
5	Comp. Output
6	Vcc

* External high frequency power supply decoupling required



SMD 7050 LVPECL VCXO

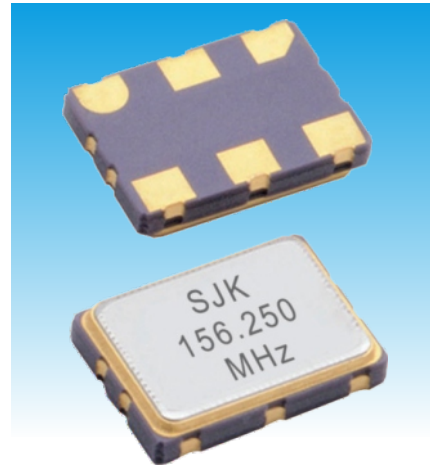


Size: 7.0×5.0×1.3 mm

7P Series SMD 7050 VCXOs

Features

- Voltage controlled crystal oscillator (VCXO)
- Frequency range from 50MHz to 700MHz
- LVPECL output
- Excellent low phase noise and jitter
- 3-state function available
- Automatic mounting and reflow soldering
- Applications: Base station, Ethernet, Server SONET, Femtocell, etc
- RoHS Compliant /Pb Free

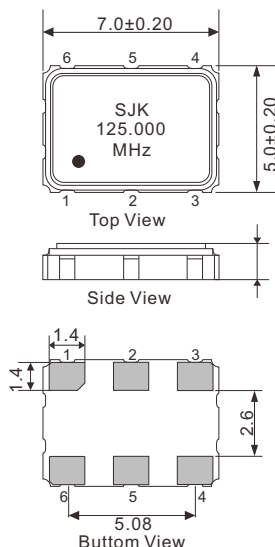


Standard Specification

Item /Type	7P (SMD 7050 VCXO)		
Output Type	LVPECL		
Output Load	50Ω to VDD-2V	50Ω to VDD-2V	100Ω
Supply Voltage	3.3V		
Frequency Range	50~200 MHz	60~700 MHz	200~700 MHz
Supply Current	80mA Max.	99mA Max.	80mA Max.
Frequency Stability	±25ppm, ±50ppm, or specify		
Operating Temperature	-40~+85°C, or specify		
Storage Temperature	-55~+125°C		
Voltage Vol (Max.) /Voh (Min.)	VDD-1.62V/VDD-1.025V		
Rise (Tr) /Fall (Tf) Time	1ns Max.		
Start-up Time	10ms Max.		
Duty Cycle	45~55%		
Absolute Pulling Range (APR)*	±50ppm Min., or specify		
Nominal Control Voltage	0.5 VDD		
Control Voltage Range	0~VDD		
Linearity	10% Max.		
Phase Jitter (12KHz~20MHz)	1pS Max.	1pS Max.	±10pS Max.
Packing Unit	1000pcs./Reel		

*APR=(Pull Range)-(Frequency tolerance at 25°C,variation over temperature,supply voltage variation,and aging.)

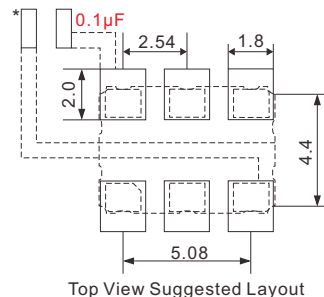
Dimensions [mm]



Pin Connections

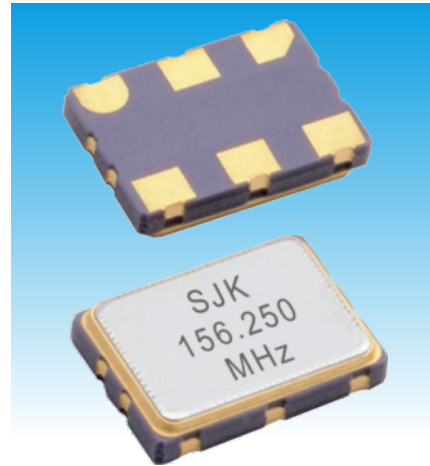
Pin No.	Connection
1	OE or NC
2	OE or NC
3	GND
4	Output
5	Comp. Output
6	Vcc

* External high frequency power supply decoupling required



Features

- Voltage controlled crystal oscillator (VCXO)
- Frequency range from 50MHz to 700MHz
- LVDS output
- Excellent low phase noise and jitter
- 3-state function available
- Automatic mounting and reflow soldering
- Applications: Base station, Ethernet, Server SONET, Femtocell, etc
- RoHS Compliant /Pb Free

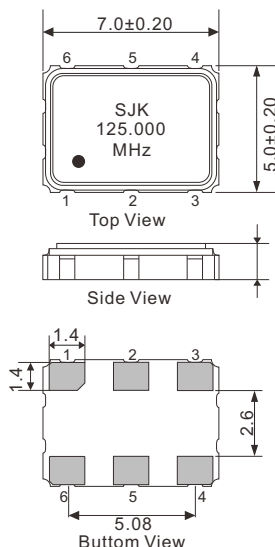


Standard Specification

Item /Type	6V (SMD 7050 VCXO)	
Output Type	LVDS	
Output Load	100Ω	
Supply Voltage	3.3V	
Frequency Range	50~200 MHz	60~700 MHz
Supply Current	80mA Max.	99mA Max.
Frequency Stability	±25ppm, ±50ppm, or specify	
Operating Temperature	-40~+85°C, or specify	
Storage Temperature	-55~+125°C	
Voltage Vol (Max.) /Voh (Min.)	0.9V/1.6V	
Rise (Tr) /Fall (Tf) Time	1ns Max.	
Start-up Time	10ms Max.	
Duty Cycle	45~55%	
Absolute Pulling Range (APR)*	±50ppm Min., or specify	
Nominal Control Voltage	0.5 VDD	
Control Voltage Range	0~VDD	
Linearity	10% Max.	
Phase Jitter (12KHz~20MHz)	±10pS Max.	1pS Max.
Packing Unit	1000pcs./Reel	

*APR=(Pull Range)-(Frequency tolerance at 25°C,variation over temperature,supply voltage variation,and aging.)

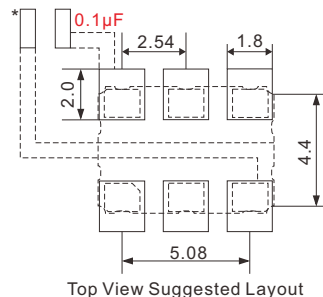
Dimensions [mm]



Pin Connections

Pin No.	Connection
1	OE or NC
2	OE or NC
3	GND
4	Output
5	Comp. Output
6	Vcc

* External high frequency power supply decoupling required



VCXO (Voltage Controlled Crystal Oscillator)



Size: 14.0×9.0×5.4 mm

9S Series SMD VCXOs

Features

- Voltage controlled crystal oscillator (VCXO)
- Frequency range from 50MHz to 700MHz
- CMOS output
- Excellent low phase noise and jitter
- 3-state function available
- Automatic mounting and reflow soldering
- Applications: Base station, Ethernet, Server SONET, Femtocell, etc
- RoHS Compliant /Pb Free

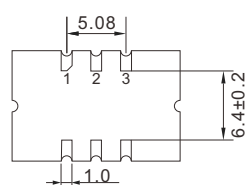
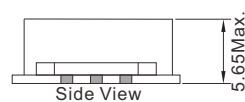
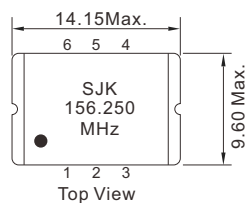


Standard Specification

Item /Type	9S (9S Series SMD VCXO)
Output Type	CMOS
Output Load	15pF, or specify
Supply Voltage	3.3V
Frequency Range	50~700 MHz
Supply Current	100mA Max.
Frequency Stability	±25ppm, ±50ppm, or specify
Operating Temperature	-40~+85°C, or specify
Storage Temperature	-55~+125°C
Voltage Vol (Max.) /Voh (Min.)	0.1VCC/0.9VCC
Rise (Tr) /Fall (Tf) Time	5ns Max.
Start-up Time	10ms Max.
Duty Cycle	45~55%
Absolute Pulling Range (APR)*	±50ppm ±10ppm Min., or specify
Nominal Control Voltage	0.5 VDD
Control Voltage Range	0~VDD
Linearity	10ms Max.
Phase Jitter (12KHz~20MHz)	1pS Max.
Packing Unit	500pcs./Reel

*APR=(Pull Range)-(Frequency tolerance at 25°C,variation over temperature,supply voltage variation,and aging.)

Dimensions [mm]

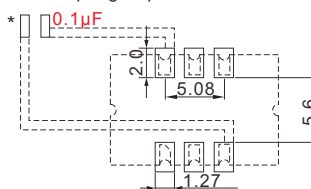


Bottom View

Pin Connections

Pin No.	Connection
1	OE or NC
2	OE or NC
3	GND
4	Output
5	Comp. Output
6	Vcc

* External high frequency power supply decoupling required



Top View Suggested Layout

SMD LVPECL Output VCXO



Size: 14.0×9.0×5.4 mm

9P Series SMD VCXOs

Features

- Voltage controlled crystal oscillator (VCXO)
- Frequency range from 50MHz to 700MHz
- LVPECL output
- Excellent low phase noise and jitter
- 3-state function available
- Automatic mounting and reflow soldering
- Applications: Base station, Ethernet, Server SONET, Femtocell, etc
- RoHS Compliant /Pb Free

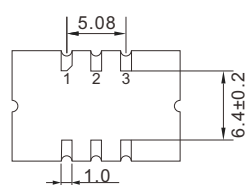
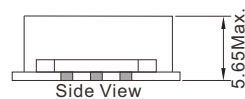
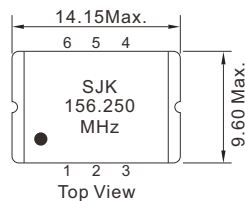


Standard Specification

Item /Type	9P (9P Series SMD VCXO)
Output Type	LVPECL
Output Load	50Ω to VDD-2V
Supply Voltage	3.3V
Frequency Range	50~700 MHz
Supply Current	80mA Max.
Frequency Stability	±25ppm, ±50ppm, or specify
Operating Temperature	-40~+85°C, or specify
Storage Temperature	-55~+125°C
Voltage Vol (Max.) /Voh (Min.)	1.62V/1.025V
Rise (Tr) /Fall (Tf) Time	5ns Max.
Start-up Time	10ms Max.
Duty Cycle	45~45%
Absolute Pulling Range (APR)*	±50ppm, ±10ppm Min., or specify
Nominal Control Voltage	0.5 VDD
Control Voltage Range	0~VDD
Linearity	10ms Max.
Phase Jitter (12KHz~20MHz)	1pS Max.
Packing Unit	500pcs./Reel

*APR=(Pull Range)-(Frequency tolerance at 25°C,variation over temperature,supply voltage variation,and aging.)

Dimensions [mm]

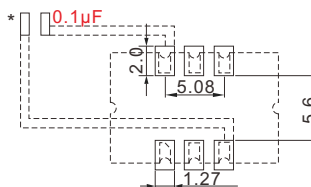


Bottom View

Pin Connections

Pin No.	Connection
1	OE or NC
2	OE or NC
3	GND
4	Output
5	Comp. Output
6	Vcc

* External high frequency power supply decoupling required



Top View Suggested Layout

SMD LVDS Output VCXO



Size: 14.0×9.0×5.4 mm

9V Series SMD VCXOs

Features

- Voltage controlled crystal oscillator (VCXO)
- Frequency range from 50MHz to 700MHz
- LVDS output
- Excellent low phase noise and jitter
- 3-state function available
- Automatic mounting and reflow soldering
- Applications: Base station, Ethernet, Server SONET, Femtocell, etc
- RoHS Compliant /Pb Free

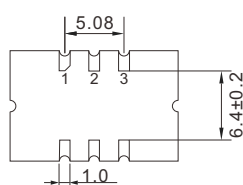
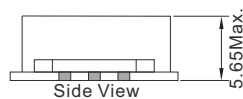
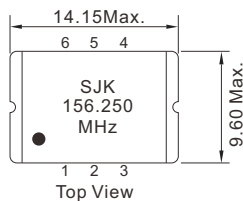


Standard Specification

Item /Type	9V (9V Series SMD VCXO)
Output Type	LVDS
Output Load	100Ω
Supply Voltage	3.3V
Frequency Range	50~700 MHz
Supply Current	80mA Max.
Frequency Stability	±25ppm, ±50ppm, or specify
Operating Temperature	-40~+85°C, or specify
Storage Temperature	-55~+125°C
Voltage Vol (Max.) /Voh (Min.)	0.9V/1.6V
Rise (Tr) /Fall (Tf) Time	5ns Max.
Start-up Time	10ms Max.
Duty Cycle	45~45%
Absolute Pulling Range (APR)*	±50ppm ±10ppm Min., or specify
Nominal Control Voltage	0.5 VDD
Control Voltage Range	0~VDD
Linearity	10ms Max.
Phase Jitter (12KHz~20MHz)	1pS Max.
Packing Unit	500pcs./Reel

*APR=(Pull Range)-(Frequency tolerance at 25°C,variation over temperature,supply voltage variation,and aging.)

Dimensions [mm]

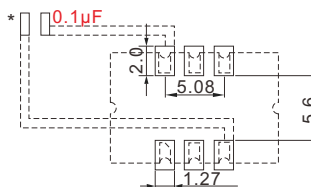


Bottom View

Pin Connections

Pin No.	Connection
1	OE or NC
2	OE or NC
3	GND
4	Output
5	Comp. Output
6	Vcc

* External high frequency power supply decoupling required



Top View Suggested Layout

Features

- All metal welded package.
- Frequency range from 1MHz up to 80MHz.
- 5V/3.3V operating voltage.
- CMOS output.
- 3-state function.
- 14-Pin DIP(Full-Size Package)
- Applications: communications,Avionics, Test equipments,Electronic instruments,etc.
- RoHS Compliant /Pb Free.

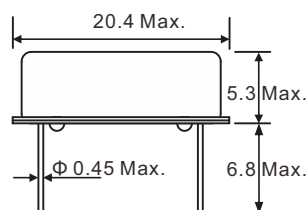
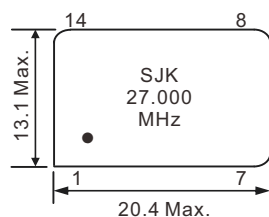


Standard Specification

Item /Type		6RF (6RF Thru-Hole VCXOs)	
Output Type		CMOS	
Supply current		40mA Max.	60mA Max.
Supply Voltage		3.3V	5.0V
Frequency Range		1~80 MHz	
Frequency Stability		±25ppm, ±50ppm	
Operating Temperature Range		-20~+70°C, -40~+85°C , or specify	
Storage Temperature Range		-55~+125°C	
Load		15pF	
	Voltage Voh	3.0V Min.	4.5V Min.
	Voltage Vol	0.3V Max.	0.4V Max.
	Current Ioh	-4.0mA.	-8.0mA.
	Current Iol	4.0mA.	8.0mA.
	Duty Cycle	40/60 Max.	
	Rise/Fall time	5ns Max.	
Frequency Control		Positive Transfer Characteristic	
	Pullability	±50ppm , ±100ppm, ±150ppm, ±200ppm Min.	
	Control Voltage	0.3Vdc to 3.0Vdc	0.5Vdc to 4.5Vdc
	Center Voltage	1.65Vdc	2.5Vdc
	Monotonic Linearity	< ±15%	
	Input impedance	50K ohms Normal	50K ohms Normal

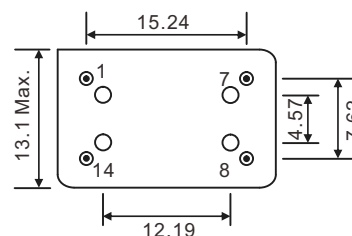
*APR=(Pull Range)-(Frequency tolerance at 25°C,variation over temperature,supply voltage variation,and aging.)

Dimensions [mm]



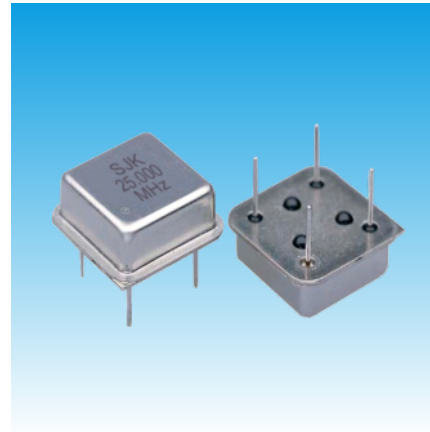
Pin Connections

Pin No.	Connection
1	OE
7	GND
8	Output
14	Vdd



Features

- All metal welded package.
- Frequency range from 1MHz up to 80MHz.
- 5V/3.3V operating voltage.
- CMOS output.
- 3-state function.
- 8-Pin DIP(Full-Size Package)
- Applications: communications,Avionics, Test equipments,Electronic instruments,etc.
- RoHS Compliant /Pb Free.

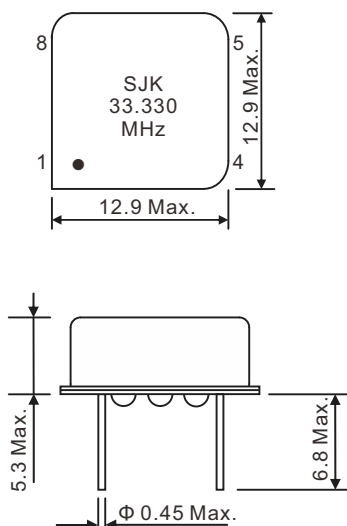


Standard Specification

Item /Type		6RH (6RH Thru-Hole VCXOs)	
Output Type		CMOS	
Supply current		40mA Max.	60mA Max.
Supply Voltage		3.3V	5.0V
Frequency Range		1~80 MHz	
Frequency Stability		±25ppm, ±50ppm	
Operating Temperature Range		-20~+70°C, -40~+85°C , or specify	
Storage Temperature Range		-55~+125°C	
Load		15pF	
Voltage Voh		3.0V Min.	4.5V Min.
Voltage Vol		0.3V Max.	0.4V Max.
Current Ioh		-4.0mA.	-8.0mA.
Current Iol		4.0mA.	8.0mA.
Duty Cycle		40/60 Max.	
Rise/Fall time		5ns Max.	
Frequency Control		Positive Transfer Characteristic	
Pullability		±50ppm ,±100ppm,±150ppm,±200ppm Min.	
Control Voltage		0.3Vdc to 3.0Vdc	0.5Vdc to 4.5Vdc
Center Voltage		1.65Vdc	2.5Vdc
Monotonic Linearity		<±15%	<±15%
Input impedance		50K ohms Normal	50K ohms Normal

*APR=(Pull Range)-(Frequency tolerance at 25°C,variation over temperature,supply voltage variation,and aging.)

Dimensions [mm]



Pin Connections

Pin No.	Connection
1	OE
4	GND
5	Output
8	Vdd

