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Crystal Oscillator

LVPECL /LVDS /HCSL Output

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SMD LVPECL Crystal Oscillator



Size: 3.2×2.5×0.95 mm

3J Series SMD LVPECL Crystal Oscillators

Features

- Differential output (LV-PECL)
- Frequency range from 10MHz to 250MHz
- 2.5V /3.3V operation voltage
- Excellent low phase noise and jitter
- 3-state function available
- Automatic mounting and reflow soldering
- Applications: Fibre channel, Ethernet, Server SONET, ATA, SCSI devices, etc
- RoHS Compliant /Pb Free

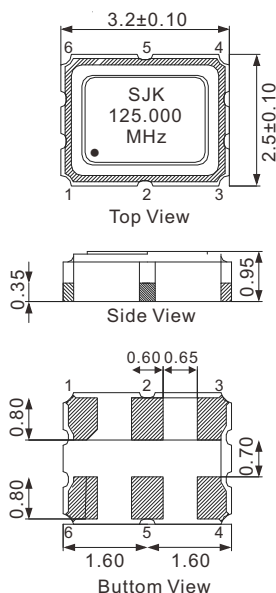


Standard Specification

Item /Type	3J (SMD 3225 LVPECL Crystal Oscillators)
Output Type	LVPECL
Output Load	50Ω to Vcc-2V
Supply Voltage	2.5V /3.3V
Frequency Range	10~250 MHz
Supply Current	80mA Max.
Overall Frequency Stability*	±50ppm, or specify
Operating Temperature	-40~+85°C, or specify
Storage Temperature	-55~+125°C
Voltage Vol (Max.) /Voh (Min.)	Vcc-1.62V /Vcc-1.025V
Rise (Tr) /Fall (Tf) Time	1ns Max.
Start-up Time	3ms Max.
Duty Cycle	45~55%
Phase Noise (156.25MHz) at 1KHz	-125dBc/Hz
Phase Jitter (12KHz~20MHz)	1ps Max.
Aging (at 25°C)	±3ppm /Year Max.
Packing Units	3000pcs. /Reel

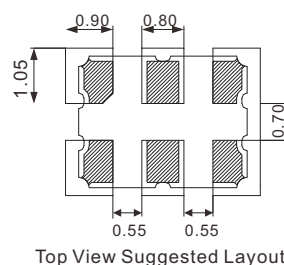
* Inclusive of frequency tolerance at 25°C, variation over temperature, supply voltage variation, aging and vibration.

Dimensions [mm]



Pin Connections

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



SMD LVDS Crystal Oscillator



Size: 3.2×2.5×0.95 mm

3D Series SMD LVDS Crystal Oscillators

Features

- Differential output (LVDS)
- Frequency range from 10MHz to 250MHz
- 2.5V /3.3V operation voltage
- Excellent low phase noise and jitter
- 3-state function available
- Automatic mounting and reflow soldering
- Applications: Fibre channel, Ethernet, Server SONET, ATA, SCSI devices, etc
- RoHS Compliant /Pb Free

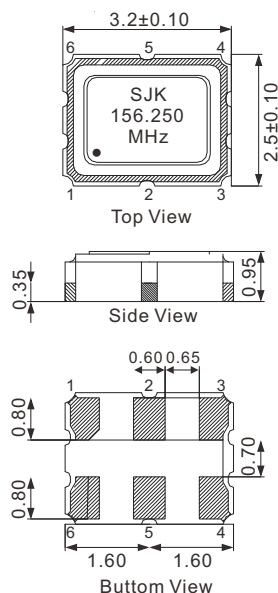


Standard Specification

Item /Type	3D (SMD 3225 LVDS Crystal Oscillators)
Output Type	LVDS
Output Load	100Ω
Supply Voltage	2.5V /3.3V
Frequency Range	10~250 MHz
Supply Current	80mA Max.
Overall Frequency Stability*	±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	3ms Max.
Duty Cycle	45~55%
Phase Noise (156.25MHz) at 1KHz	-120dBc/Hz
Phase Jitter (12KHz~20MHz)	1ps Max.
Aging (at 25°C)	±3ppm /Year Max.
Packing Units	3000pcs. /Reel

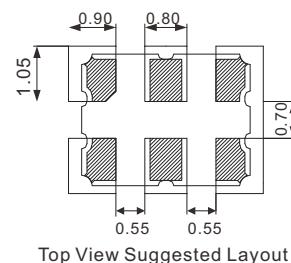
* Inclusive of frequency tolerance at 25°C, variation over temperature, supply voltage variation, aging and vibration.

Dimensions [mm]



Pin Connections

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



SMD HCSL Crystal Oscillator



Size: 3.2×2.5×0.95 mm

3H Series SMD HCSL Crystal Oscillators

Features

- Differential output (HCSL)
- Frequency range from 25MHz to 200MHz
- 2.5V /3.3V operation voltage
- Excellent low phase noise and jitter
- 3-state function available
- Automatic mounting and reflow soldering
- Applications: Fibre channel, Ethernet, Server SONET, ATA, SCSI devices, etc
- RoHS Compliant /Pb Free

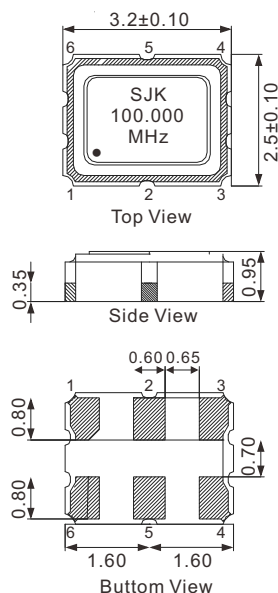


Standard Specification

Item /Type	3H (SMD 3225 HCSL Crystal Oscillators)
Output Type	HCSL
Output Load	50Ω
Supply Voltage	2.5V /3.3V
Frequency Range	25~200 MHz
Supply Current	30mA Max.
Overall Frequency Stability*	±50ppm, or specify
Operating Temperature	-40~+85°C, or specify
Storage Temperature	-55~+125°C
Voltage Vol (Max.) /Voh (Min.)	0mV /740mV
Rise (Tr) /Fall (Tf) Time	0.5ns Max.
Start-up Time	10ms Max.
Duty Cycle	45~55%
Phase Noise (156.25MHz) at 1KHz	-120dBc/Hz
Phase Jitter (12KHz~20MHz)	1ps Max.
Aging (at 25°C)	±3ppm /Year Max.
Packing Units	3000pcs. /Reel

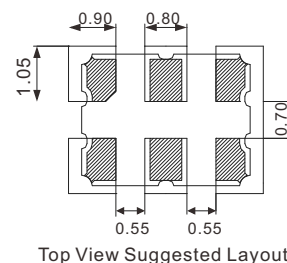
* Inclusive of frequency tolerance at 25°C, variation over temperature, supply voltage variation, aging and vibration.

Dimensions [mm]



Pin Connections

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



SMD LV-PECL Crystal Oscillator



Size: 5.0×3.2×1.2 mm

5J Series SMD LVPECL Crystal Oscillators

Features

- Differential output (LV-PECL)
- Frequency range from 10MHz to 320MHz
- 2.5V /3.3V operation voltage
- Excellent low phase noise and jitter
- 3-state function available
- Automatic mounting and reflow soldering
- Applications: Ethernet, Server, SDH, PC, SONET, Mobile telecommunications, etc
- RoHS Compliant /Pb Free

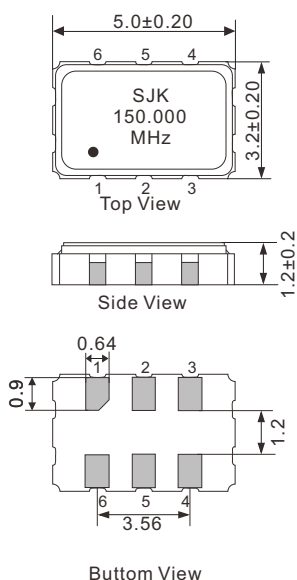


Standard Specification

Item /Type	5J (SMD 5032 LV-PECL Crystal Oscillators)
Output Type	LV-PECL
Output Load	50Ω to Vcc-2V
Supply Voltage	2.5V /3.3V
Frequency Range	10~320 MHz
Supply Current	50mA Max.
Overall Frequency Stability*	±25ppm, ±50ppm, or specify
Operating Temperature	-40~+85°C, or specify
Storage Temperature	-55~+125°C
Voltage Vol (Max.) /Voh (Min.)	Vcc-1.62V /Vcc-1.026V
Rise (Tr) /Fall (Tf) Time	1ns Max.
Start-up Time	10ms Max.
Duty Cycle	45~55%
Phase Noise (156.25MHz) at 1KHz	-105dBc/Hz
Phase Jitter (12KHz~20MHz)	1ps Max.
Aging (at 25°C)	±3ppm /Year Max.
Packing Units	1000pcs. /Reel

* Inclusive of frequency tolerance at 25°C, variation over temperature, supply voltage variation, aging and vibration.

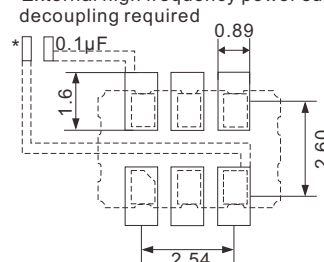
Dimensions [mm]



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



Top View Suggested Layout

SMD LVDS Crystal Oscillator



Size: 5.0×3.2×1.2 mm

5D Series SMD LVDS Crystal Oscillators

Features

- Differential output (LVDS)
- Frequency range from 10MHz to 320MHz
- 2.5V /3.3V operation voltage
- Excellent low phase noise and jitter
- 3-state function available
- Automatic mounting and reflow soldering
- Applications: Ethernet, Server, Telcom, Storage Area Network, SONET, etc
- RoHS Compliant /Pb Free

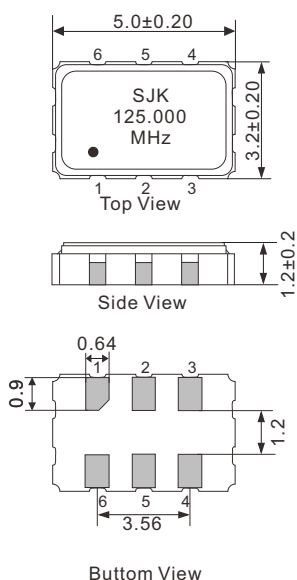


Standard Specification

Item /Type	5D (SMD 5032 LVDS Crystal Oscillators)
Output Type	LVDS
Output Load	100Ω
Supply Voltage	2.5V /3.3V
Frequency Range	10~320 MHz
Supply Current	50mA Max.
Overall 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	3ms Max.
Duty Cycle	45~55%
Phase Noise (156.25MHz) at 1KHz	-105dBc/Hz
Phase Jitter (12KHz~20MHz)	1ps Max.
Aging (at 25°C)	±3ppm /Year Max.
Packing Units	1000pcs. /Reel

* Inclusive of frequency tolerance at 25°C, variation over temperature, supply voltage variation, aging and vibration.

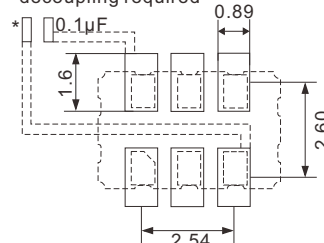
Dimensions [mm]



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



Top View Suggested Layout

SMD HCSL Crystal Oscillator



Size: 5.0×3.2×1.2 mm

5H Series SMD HCSL Crystal Oscillators

Features

- Differential output (HCSL)
- Frequency range from 25MHz to 200MHz
- 2.5V /3.3V operation voltage
- Excellent low phase noise and jitter
- 3-state function available
- Automatic mounting and reflow soldering
- Applications: Ethernet, Server, Telcom, Storage Area Network, SONET, etc
- RoHS Compliant /Pb Free

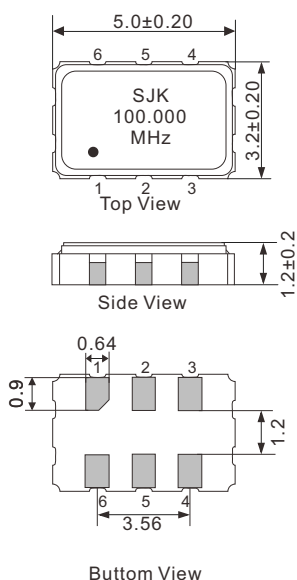


Standard Specification

Item /Type	5H (SMD 5032 HCSL Crystal Oscillators)
Output Type	HCSL
Output Load	50Ω
Supply Voltage	2.5V /3.3V
Frequency Range	25~200 MHz
Supply Current	30mA Max.
Overall Frequency Stability*	±25ppm, ±50ppm, or specify
Operating Temperature	-40~+85°C, or specify
Storage Temperature	-55~+125°C
Voltage Vol (Max.) /Voh (Min.)	0mV /740mV
Rise (Tr) /Fall (Tf) Time	0.5ns Max.
Start-up Time	10ms Max.
Duty Cycle	45~55%
Phase Noise (156.25MHz) at 1KHz	-105dBc/Hz
Phase Jitter (12KHz~20MHz)	1ps Max.
Aging (at 25°C)	±3ppm /Year Max.
Packing Units	1000pcs. /Reel

* Inclusive of frequency tolerance at 25°C, variation over temperature, supply voltage variation, aging and vibration.

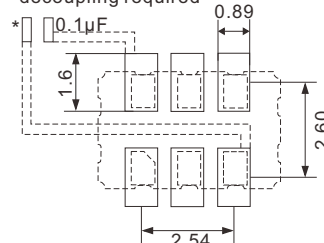
Dimensions [mm]



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



Top View Suggested Layout

SMD LV-PECL Crystal Oscillator

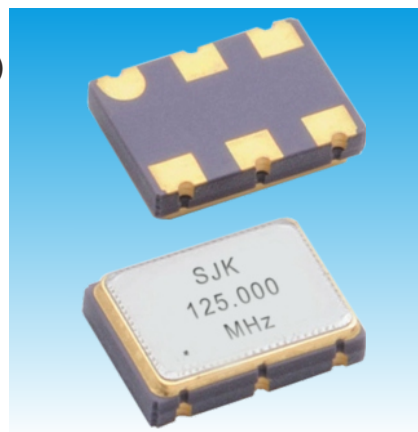


Size: 7.0×5.0×1.3 mm

7J Series SMD LV-PECL Crystal Oscillators

Features

- Differential output crystal oscillator (LV-PECL)
- Frequency range from 10MHz to 1500MHz
- 2.5V /3.3V operation voltage
- Excellent low phase noise and jitter
- 3-state function available
- Automatic mounting and reflow soldering
- Applications: Ethernet, Server, PC, ADC, Storage Area Network, SONET, etc
- RoHS Compliant /Pb Free

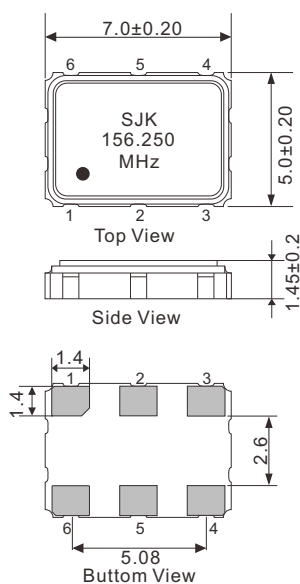


Standard Specification

Item /Type	7J (SMD 7050 LV-PECL Crystal Oscillators)	
Output Type	LV-PECL	
Output Load	50Ω to Vcc-2V	
Supply Voltage	2.5V /3.3V	
Frequency Range	10~320 MHz	10~1500 MHz
Supply Current	100mA Max.	50mA Max.
Overall Frequency Stability*	±25ppm, ±50ppm, or specify	
Operating Temperature	-40~+85°C, or specify	
Storage Temperature	-55~+125°C	
Voltage Vol (Max.) /Voh (Min.)	Vcc-1.62V /Vcc-1.026V	
Rise (Tr) /Fall (Tf) Time	1ns Max.	
Start-up Time	2ms Max.	10ms Max.
Duty Cycle	45~55%	
Phase Noise (156.25MHz) at 1KHz	-130dBc/Hz	-113dBc/Hz
Phase Jitter (12KHz~20MHz)	1ps Max.	
Aging (at 25°C)	±3ppm /Year Max.	
Packing Units	1000pcs. /Reel	

* Inclusive of frequency tolerance at 25°C, variation over temperature, supply voltage variation, aging and vibration.

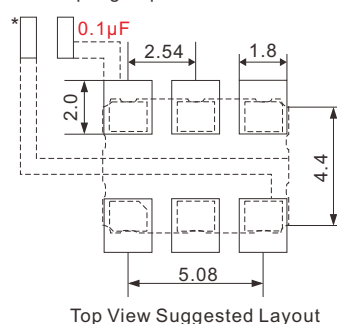
Dimensions [mm]



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 LVDS Crystal Oscillator



Size: 7.0×5.0×1.3 mm

7B Series SMD LVDS Crystal Oscillators

Features

- Differential output Crystal Oscillator (LVDS)
- Frequency range from 10MHz to 1500MHz
- 2.5V /3.3V operation voltage
- Excellent low phase noise and jitter
- 3-state function available
- Automatic mounting and reflow soldering
- Applications: Ethernet, Server, PC, ADC, Storage Area Network, SONET, etc
- RoHS Compliant /Pb Free

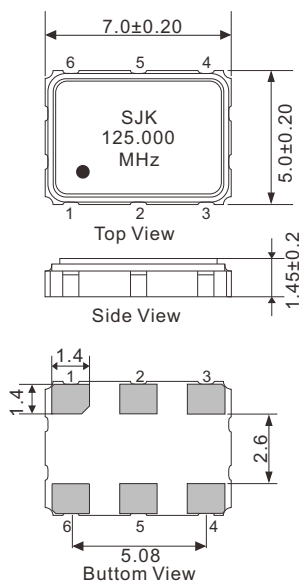


Standard Specification

Item /Type	7B (SMD 7050 LVDS Crystal Oscillators)	
Output Type	LVDS	
Output Load	100Ω	
Supply Voltage	2.5V /3.3V	
Frequency Range	10~320 MHz	10~1500 MHz
Supply Current	65mA Max.	50mA Max.
Overall 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	2ms Max.	10ms Max.
Duty Cycle	45~55%	
Phase Noise (156.25MHz) at 1KHz	-130dBc/Hz	-113dBc/Hz
Phase Jitter (12KHz~20MHz)	1ps Max.	
Aging (at 25°C)	±3ppm /Year Max.	
Packing Units	1000pcs. /Reel	

* Inclusive of frequency tolerance at 25°C, variation over temperature, supply voltage variation, aging and vibration.

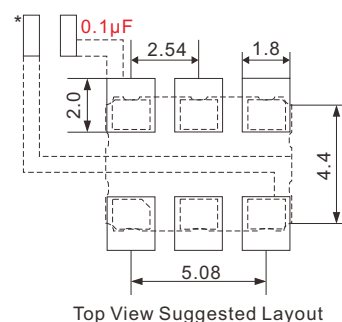
Dimensions [mm]



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 HCSL Crystal Oscillator

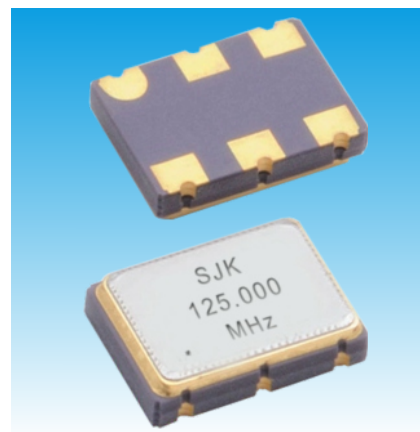


Size: 7.0×5.0×1.3 mm

7H Series SMD HCSL Crystal Oscillators

Features

- Differential output (HCSL)
- Frequency range from 25MHz to 200MHz
- 2.5V /3.3V operation voltage
- Excellent low phase noise and jitter
- 3-state function available
- Automatic mounting and reflow soldering
- Applications: Ethernet, Server, PC, ADC, Storage Area Network, SONET, etc
- RoHS Compliant /Pb Free

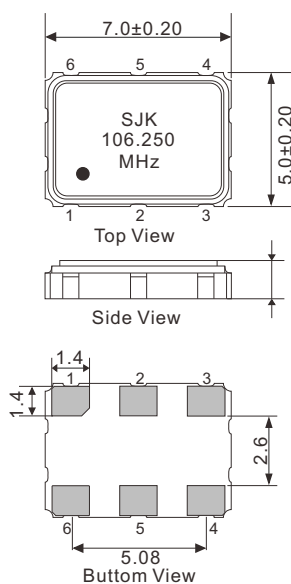


Standard Specification

Item /Type	7H (SMD 7050 HCSL Crystal Oscillators)
Output Type	HCSL
Output Load	50Ω
Supply Voltage	2.5V /3.3V
Frequency Range	25~200 MHz
Supply Current	30mA Max.
Overall Frequency Stability*	±25ppm, ±50ppm, or specify
Operating Temperature	-40~+85°C, or specify
Storage Temperature	-55~+125°C
Voltage Vol (Max.) /Voh (Min.)	0V / 740mV
Rise (Tr) /Fall (Tf) Time	0.5ns Max.
Start-up Time	10ms Max.
Duty Cycle	45~55%
Phase Noise (156.25MHz) at 1KHz	-120dBc/Hz
Phase Jitter (12KHz~20MHz)	1ps Max.
Aging (at 25°C)	±3ppm /Year Max.
Packing Units	1000pcs. /Reel

* Inclusive of frequency tolerance at 25°C, variation over temperature, supply voltage variation, aging and vibration.

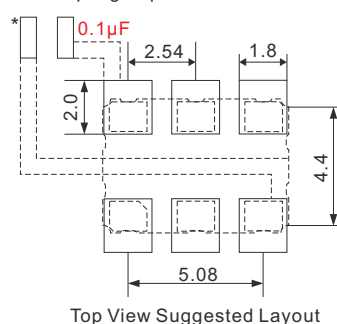
Dimensions [mm]



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 LV-PECL Crystal Oscillator

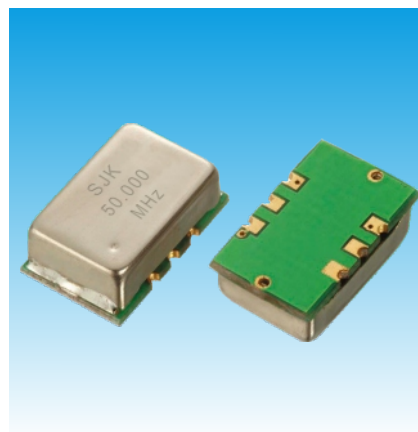


Size: 14.0×7.0×5.6 mm

9J Series SMD LV-PECL Crystal Oscillators

Features

- Differential output (LV-PECL)
- Frequency range from 25MHz to 700MHz
- 2.5V /3.3V operation voltage
- Excellent low phase noise and jitter
- 3-state function available
- Automatic mounting and reflow soldering
- Applications: Ethernet, Server, PC, ADC, Storage Area Network, SONET, etc
- RoHS Compliant /Pb Free

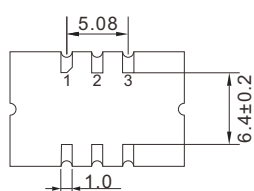
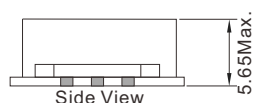
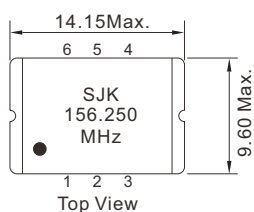


Standard Specification

Item /Type	9J (SMD LV-PECL Crystal Oscillators)
Output Type	LV-PECL
Output Load	50Ω to Vcc-2V
Supply Voltage	2.5V /3.3V
Frequency Range	25~700 MHz
Supply Current	80mA Max.
Overall Frequency Stability*	±25ppm, ±50ppm, or specify
Operating Temperature	-40~+85°C, or specify
Storage Temperature	-55~+125°C
Voltage Vol (Max.) /Voh (Min.)	Vcc-1.62V / Vcc-1.026V
Rise (Tr) /Fall (Tf) Time	1ns Max.
Start-up Time	10ms Max.
Duty Cycle	45~55%
Phase Noise (156.25MHz) at 1KHz	-120dBc/Hz
Phase Jitter (12KHz~20MHz)	1ps Max.
Aging (at 25°C)	±3ppm /Year Max.
Packing Units	500pcs. /Reel

* Inclusive of frequency tolerance at 25°C, variation over temperature, supply voltage variation, aging and vibration.

Dimensions [mm]

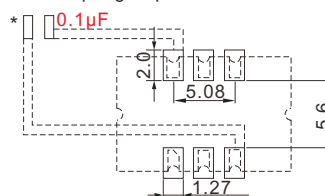


Bottom View

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 Crystal Oscillator



Size: 14.0×9.0×5.6 mm

9D Series SMD LVDS Crystal Oscillators

Features

- Differential output (LVDS)
- Frequency range from 25MHz to 700MHz
- 2.5V /3.3V operation voltage
- Excellent low phase noise and jitter
- 3-state function available
- Automatic mounting and reflow soldering
- Applications: Ethernet, Server, HDTV, ADC, Storage Area Network, SONET, etc
- RoHS Compliant /Pb Free

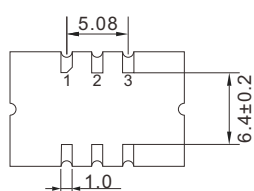
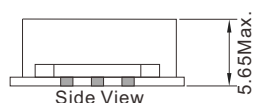
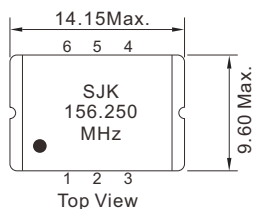


Standard Specification

Item /Type	9D (SMD LVDS Crystal Oscillators)
Output Type	LVDS
Output Load	100Ω
Supply Voltage	2.5V /3.3V
Frequency Range	25~700 MHz
Supply Current	80mA Max.
Overall 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%
Phase Noise (156.25MHz) at 1KHz	-120dBc/Hz
Phase Jitter (12KHz~20MHz)	1ps Max.
Aging (at 25°C)	±3ppm /Year Max.
Packing Units	500pcs. /Reel

* Inclusive of frequency tolerance at 25°C, variation over temperature, supply voltage variation, aging and vibration.

Dimensions [mm]

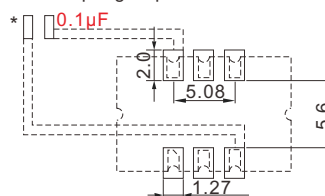


Bottom View

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