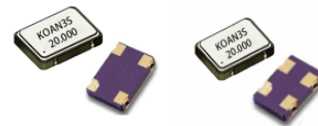


时钟振荡器 Clock Oscillator: KS20 KS25 KS32 KS50 KS70

■ Feature 特征

- Miniature package for space-saving designs 小型封装, 节省空间
- Compatible with CMOS and TTL logic circuits for versatile integration 兼容 CMOS/TTL 逻辑电路
- Standards tri-state output 标准三态输出
- Available in multiple voltage options to suit different system requirements 多电压选择, 满足不同系统需求



■ General Specifications 规格参考

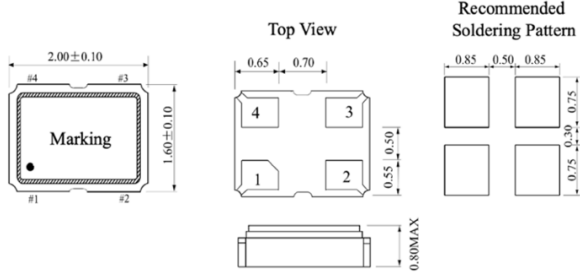
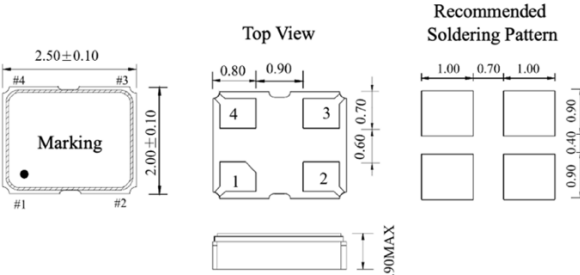
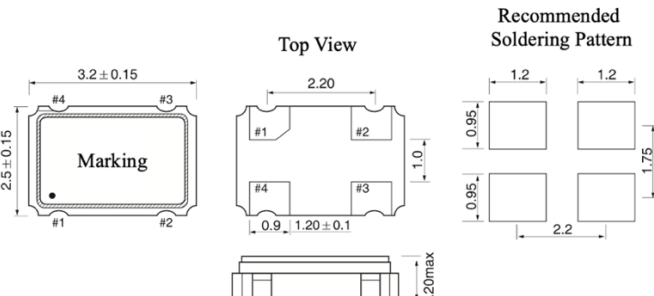
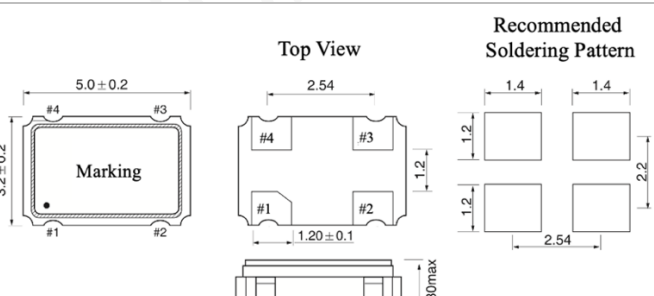
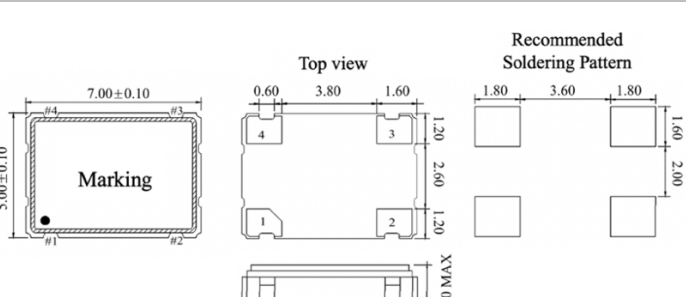
PARAMETER	性能参数		KS20	KS25	KS32	KS50	KS70
Dimensions	尺寸		2.0x1.6mm	2.5x2.0mm	3.2x2.5mm	5.0x3.2mm	7.0x5.0mm
Supply Voltage	供给电压 (±10%)	1.2V	-	0.25~50MHz	0.25~50MHz	0.25~50MHz	0.25~50MHz
		1.8V	1~60MHz	0.312~160MHz	0.312~160MHz	0.312~160MHz	0.312~160MHz
		2.5V				0.312~200MHz	0.312~200MHz
		3.3V					
		5.0V	-	1.75~50MHz	1.75~50MHz	0.375~100MHz	0.375~100MHz
Output Logic	输出波形		CMOS				
Frequency Tolerance	调整频差		±5ppm ~ ±30ppm				
Frequency Stability	温度频差		见下表				
Operating Temperature Range	温度范围		见下表				
Current Consumption	工作电流		15mA max	20mA max	25mA max	40mA	45mA max
Output Load	输出负载		15pF				
Start-up Time	起振时间		1ms typ; 5ms max	2ms typ; 5ms max			
Duty Cycle	占空比		45~55%				
Rise & Fall Time	上升下降时间		5ns max				
Output Logic High “1” Output Logic Low “0”	输出电平 高 输出电平 低		0.9Vdd min 0.1Vdd max	0.9V min; 0.1V max@1.2V 0.9Vdd min; 0.1Vdd max @1.8/2.5/3.3/5.0V			
Storage Temperature Range	储存温度范围		-55℃ ~ +125℃				
Aging Per Year	年老化率		±3ppm ~ ±5ppm/year				

Frequency Stability 温度频差 VS Operating Temperature Range 温度范围

Temp. Code	Temp.\ppm	±10	±20	±30	±50	±100
B	-20~70°C	○	○	○	○	○
C	-40~85°C		○	○	○	○
D	-55~85°C			○	○	○
E	-55~105°C				○	○
F	-55~125°C				○	○

NOTE: Please consult for other specifications 若有其它规格需求请告知

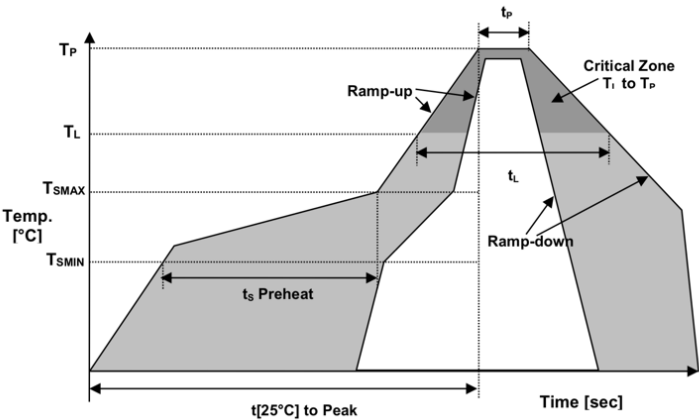
■ Outline Dimensions (Unit: mm) 外形尺寸

KS20	 Top View 2.00±0.10 1.60±0.10 0.65 0.70 0.55 0.50 0.80MAX Recommended Soldering Pattern 0.85 0.50 0.85 0.75 0.30 0.75 Pin Connection <table> <tr><td>#1</td><td>Output Enable (OE)</td></tr> <tr><td>#2</td><td>Ground</td></tr> <tr><td>#3</td><td>Output</td></tr> <tr><td>#4</td><td>Supply Voltage</td></tr> </table> Enable/Disable Function <table> <tr><td>Input (#1)</td><td>Output (#3)</td></tr> <tr><td>Open</td><td>Enable</td></tr> <tr><td>V_{IN} ≥ 70%V_{DD}</td><td>Enable</td></tr> <tr><td>V_{IL} ≤ 30%V_{DD}</td><td>Disable</td></tr> </table>	#1	Output Enable (OE)	#2	Ground	#3	Output	#4	Supply Voltage	Input (#1)	Output (#3)	Open	Enable	V _{IN} ≥ 70%V _{DD}	Enable	V _{IL} ≤ 30%V _{DD}	Disable
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KS25	 Top View 2.50±0.10 2.00±0.10 0.80 0.90 0.60 0.70 0.90MAX Recommended Soldering Pattern 1.00 0.70 1.00 0.90 0.40 0.90 Pin Connection <table> <tr><td>#1</td><td>Output Enable (OE)</td></tr> <tr><td>#2</td><td>Ground</td></tr> <tr><td>#3</td><td>Output</td></tr> <tr><td>#4</td><td>Supply Voltage</td></tr> </table> Enable/Disable Function <table> <tr><td>Input (#1)</td><td>Output (#3)</td></tr> <tr><td>Open</td><td>Enable</td></tr> <tr><td>V_{IN} ≥ 70%V_{DD}</td><td>Enable</td></tr> <tr><td>V_{IL} ≤ 30%V_{DD}</td><td>Disable</td></tr> </table>	#1	Output Enable (OE)	#2	Ground	#3	Output	#4	Supply Voltage	Input (#1)	Output (#3)	Open	Enable	V _{IN} ≥ 70%V _{DD}	Enable	V _{IL} ≤ 30%V _{DD}	Disable
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KS32	 Top View 3.2±0.15 2.5±0.15 2.20 0.9 1.20±0.1 1.0 1.20max Recommended Soldering Pattern 1.2 1.2 0.95 0.95 2.2 1.75 Pin Connection <table> <tr><td>#1</td><td>Output Enable (OE)</td></tr> <tr><td>#2</td><td>Ground</td></tr> <tr><td>#3</td><td>Output</td></tr> <tr><td>#4</td><td>Supply Voltage</td></tr> </table> Enable/Disable Function <table> <tr><td>Input (#1)</td><td>Output (#3)</td></tr> <tr><td>Open</td><td>Enable</td></tr> <tr><td>V_{IN} ≥ 70%V_{DD}</td><td>Enable</td></tr> <tr><td>V_{IL} ≤ 30%V_{DD}</td><td>Disable</td></tr> </table>	#1	Output Enable (OE)	#2	Ground	#3	Output	#4	Supply Voltage	Input (#1)	Output (#3)	Open	Enable	V _{IN} ≥ 70%V _{DD}	Enable	V _{IL} ≤ 30%V _{DD}	Disable
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KS50	 Top View 5.0±0.2 3.2±0.2 2.54 1.20±0.1 1.2 1.30max Recommended Soldering Pattern 1.4 1.4 1.2 1.2 2.2 2.54 Pin Connection <table> <tr><td>#1</td><td>Output Enable (OE)</td></tr> <tr><td>#2</td><td>Ground</td></tr> <tr><td>#3</td><td>Output</td></tr> <tr><td>#4</td><td>Supply Voltage</td></tr> </table> Enable/Disable Function <table> <tr><td>Input (#1)</td><td>Output (#3)</td></tr> <tr><td>Open</td><td>Enable</td></tr> <tr><td>V_{IN} ≥ 70%V_{DD}</td><td>Enable</td></tr> <tr><td>V_{IL} ≤ 30%V_{DD}</td><td>Disable</td></tr> </table>	#1	Output Enable (OE)	#2	Ground	#3	Output	#4	Supply Voltage	Input (#1)	Output (#3)	Open	Enable	V _{IN} ≥ 70%V _{DD}	Enable	V _{IL} ≤ 30%V _{DD}	Disable
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KS70	 Top view 7.00±0.10 5.00±0.10 0.60 3.80 1.60 1.20 2.60 1.20 1.50 MAX Recommended Soldering Pattern 1.80 3.60 1.80 1.60 2.00 Pin Connection <table> <tr><td>#1</td><td>Output Enable (OE)</td></tr> <tr><td>#2</td><td>Ground</td></tr> <tr><td>#3</td><td>Output</td></tr> <tr><td>#4</td><td>Supply Voltage</td></tr> </table> Enable/Disable Function <table> <tr><td>Input (#1)</td><td>Output (#3)</td></tr> <tr><td>Open</td><td>Enable</td></tr> <tr><td>V_{IN} ≥ 70%V_{DD}</td><td>Enable</td></tr> <tr><td>V_{IL} ≤ 30%V_{DD}</td><td>Disable</td></tr> </table>	#1	Output Enable (OE)	#2	Ground	#3	Output	#4	Supply Voltage	Input (#1)	Output (#3)	Open	Enable	V _{IN} ≥ 70%V _{DD}	Enable	V _{IL} ≤ 30%V _{DD}	Disable
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■ Part Number Guide 产品编号

<u>KS25</u>	-	<u>20.000</u>	-	<u>33</u>	-	<u>C</u>	-	<u>30</u>	-	<u>NS</u>
↓		↓		↓		↓		↓		↓
型号	-	标称频率	-	工作电压	-	工作温度	-	温度频差	-	特殊要求
‘KS’: 非差分系列 ‘25’:封装尺寸 SMD2.5x2.0mm (In MHz)				12=1.2V	B: -20~+70°C			10 = ±10ppm	‘NS’:特殊要求	
				18=1.8V	C: -40~+85°C			20 = ±20ppm		
				25=2.5V	D: -55~+85°C			30 = ±30ppm		
				33=3.3V	E: -55~+105°C			50 = ±50ppm		
				50=5.0V	F: -55~+125°C			100 = ±100ppm		

■ Reflow Profile 回流焊



Temperature Min Preheat	最低预热温度	Tsmin	150°C
Temperature Max preheat	最高预热温度	Tsmax	200°C
Time (Tsmin to Tsmax)	时间差	Ts	60~120 sec
Temperature	温度	TL	217°C
Peak Temperature	最高温	TP	260 °C
Ramp-up Rate	升温速度	Rup	3°C/sec max
Ramp-down Rate	降温速度	Rdown	6°C/sec max
Time within 5°C of Peak Temperature	最高温度停留时间	tp	30 sec
Time t[25°C] to peak temperature	25度到最高温度时间	t[25°C] to peak	480 sec
Time	时间	tL	60~150 sec

■ Revision 版本

版本 Rev.	修改页 Revise Page	修改内容 Revise Contents	日期 Date	修改人 Reviser
0	N/A	Initial issue	2020.09.27	JZ
1.0	1	Specs update	2024.03.02	JZ