

## 压控振荡器 Voltage Controlled Crystal Oscillator: KV32T KV50T KV70T

### Feature 特征

- VCXO allow for precise frequency tuning over typical range  $\pm 80\sim 200\text{ppm}$  by adjusting the voltage on the control (Vc) pin 压控晶振可以通过调节控制引脚上的电压进行微调, 频率微调范围为 $\pm 80\sim \pm 200\text{ppm}$
- CMOS output with wide frequency range, up to 245MHz 频率范围广, 最高 245MHz
- Low phase jitter 0.6ps RMS 低相位抖动, 满足高速数字系统要求
- Ideal for high performance communication, video, and industrial timing systems 适用于高性能通信, 视频处理, 工业控制等
- Available in compact packages such as 3225, 5032, 7050 可选多种尺寸



### General Specifications 规格参考

PARAMETER	性能参数	KV32T KV50T KV70T	
Frequency Range	频率范围	10.0~245.0MHz	
Supply Voltage	供给电压	+2.5V ( $\pm 10\%$ )	+3.3V ( $\pm 10\%$ )
Center Control Voltage	中心控制电压	1.25Vdc (0.25V~2.25V)	1.65Vdc (0.3V~3.0V)
Output Logic	输出波形	CMOS	
Output Load	输出负载	15pF	
Frequency Tolerance	调整频差	$\pm 20\text{ppm}$	
Current Consumption	工作电流	40mA max	
Output Logic High "1"	输出电平 高	0.9V <sub>dd</sub> min	
Output Logic Low "0"	输出电平 低	0.1V <sub>dd</sub> max	
Frequency Pulling Range	压控范围	$\pm 80\sim \pm 200\text{ppm}$	
Integrated Phase Jitter	抖动	0.6ps max (12KHz~20MHz)	
Input Impedance	输入电阻	1M $\Omega$ typical	
Rise & Fall Time	上升下降时间	10ns max	
Start-up Time	起振时间	5ms typical, 10ms max	
Output Enable/Disable Time	启动/禁用时间	Enable: 200ns max Disable: 50ns max	
Linearity	非线性误差	$\pm 5\%$ typical, $\pm 10\%$ max	
Duty Cycle	占空比	45~55%	
Modulation Bandwidth (-3dB)	调制宽带	10KHz min.	
Aging Per Year	年化率	$\pm 3\text{ppm}\sim \pm 5\text{ppm}/\text{year}$	
Storage Temperature Range	储存温度范围	-55°C ~ +125°C	

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

Temp. Code	Temp. ppm	$\pm 10$	$\pm 20$	$\pm 30$	$\pm 50$	$\pm 100$
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

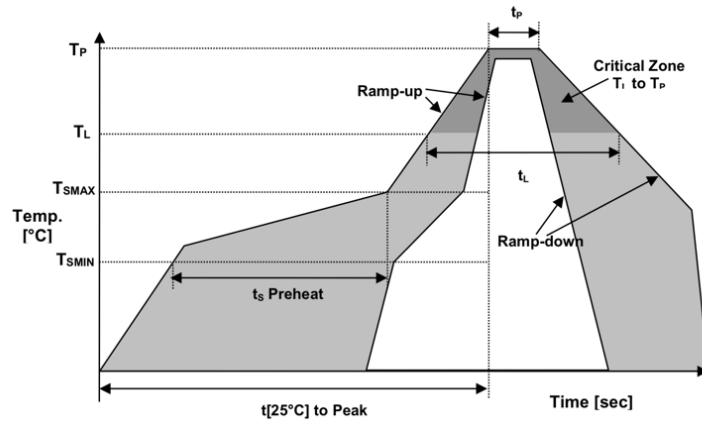
## Outline Dimensions (Unit: mm) 外形尺寸

<p><b>KV32T</b></p>															
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	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Pin</th> <th>Connection</th> </tr> </thead> <tbody> <tr> <td>#1</td> <td>Control Voltage</td> </tr> <tr> <td>#2</td> <td>Tri-State</td> </tr> <tr> <td>#3</td> <td>Ground</td> </tr> <tr> <td>#4</td> <td>CMOS: Output; PECL or LVDS: Differential</td> </tr> <tr> <td>#5</td> <td>CMOS: N.C.; PECL or LVDS: Complementary</td> </tr> <tr> <td>#6</td> <td>Supply Voltage</td> </tr> </tbody> </table>	Pin	Connection	#1	Control Voltage	#2	Tri-State	#3	Ground	#4	CMOS: Output; PECL or LVDS: Differential	#5	CMOS: N.C.; PECL or LVDS: Complementary	#6	Supply Voltage
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## Part Number Guide 产品编号

<b>KV32T</b>	-	<b>27.000</b>	-	<b>100</b>	-	<b>33</b>	-	<b>C</b>	-	<b>30</b>	-	<b>NS</b>
↓		↓		↓		↓		↓		↓		↓
<b>型号</b>	-	<b>标称频率</b>	-	<b>压控范围</b>	-	<b>工作电压</b>	-	<b>工作温度</b>	-	<b>温度频差</b>	-	<b>特殊要求</b>
‘KV’: 压控系列		(In MHz)		80=±80ppm		25=2.5V		B: -20~+70°C		10 = ±10ppm		
‘32’: 封装尺寸				100=±100ppm		33=3.3V		C: -40~+85°C		20 = ±20ppm		
3.2x2.5mm				150=±150ppm				D: -55~+85°C		30 = ±30ppm		‘NS’:特殊要求
‘T’: 输出波形				200=±200ppm				E: -55~+105°C		50 = ±50ppm		
CMOS								F: -55~+125°C		100 = ±100ppm		

## ■ Reflow Profile 回流焊



Temperature Min Preheat	最低预热温度	$T_{smin}$	150°C
Temperature Max preheat	最高预热温度	$T_{smax}$	200°C
Time ( $T_{smin}$ to $T_{smax}$ )	时间差	$T_s$	60~120 sec
Temperature	温度	$T_L$	217°C
Peak Temperature	最高温	$T_p$	260 °C
Ramp-up Rate	升温速度	$R_{up}$	3°C/sec max
Ramp-down Rate	降温速度	$R_{down}$	6°C/sec max
Time within 5°C of Peak Temperature	最高温度停留时间	$t_p$	30 sec
Time $t[25^\circ\text{C}]$ to peak temperature	25度到最高温度时间	$t[25^\circ\text{C}]$ to peak	480 sec
Time	时间	$t_L$	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
1.1	2	Pin description	2022.02.24	JZ
1.2	1	Specs update	2024.03.19	JZ