

温补振荡器 Temperature Compensated Crystal Oscillator: KT3225

Feature 特征

- Compact 3.2x2.5mm SMD package with fixed frequency 32.768kHz CMOS output 小尺寸贴片温补晶振 频率为 32.768kHz, 输出波形为 CMOS
- Excellent frequency stability up to $\pm 5\text{ppm}$ max 频率稳定性好, 最大 $\pm 5\text{ppm}$
- Ultra-low current consumption ideal for battery-powered device 超低电流消耗, 适合电池供电应用
- Ideal for real-time clock, wearable, IoT, and portable electronics 广泛应用实时时钟, 可穿戴设备, 物联网, 及便携式电子产品



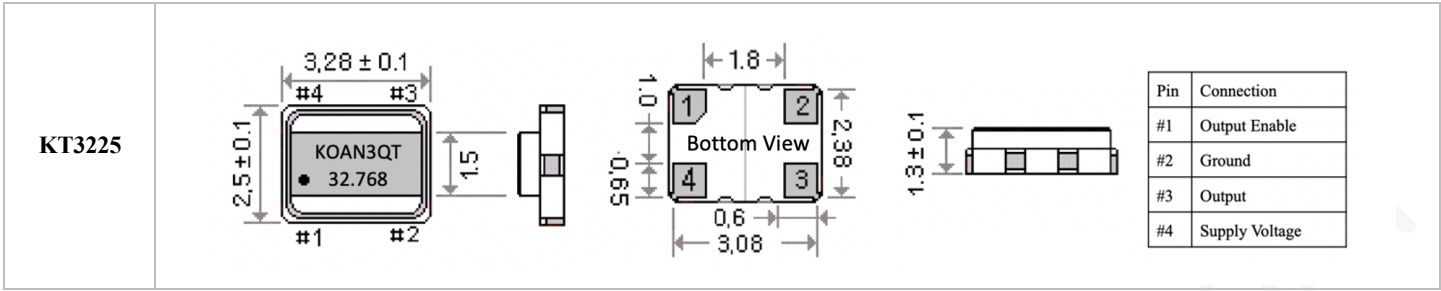
General Specifications 规格参考

PARAMETER	性能参数	KT3225
Supply Voltage	工作电压	+1.8V; +2.5V; +3.0V; +3.3V; +5.0V
Frequency Range	频率范围	32.768kHz
Output Logic	输出波形	CMOS
Output Load	输出负载	15pF
Output Logic High '1'	输出电平 高	VDD-0.4V min; IOH=0.1mA
Output Logic Low '0'	输出电平 低	0.4V max; IOL=-0.1mA
Initial Calibration Tolerance	调整频差	$\pm 1.5\text{ppm}$ max
Current Consumption	工作电流	0.79~2.05uA typ.
Frequency Stability 频率温度稳定度 VS		
Operating Temperature Range	温度范围	见下表
Frequency Stability	温度频差	
Aging	年老化率	$\pm 3.0\text{ppm/year}$ max
Voltage Change	电压变化	$\pm 0.2\text{ppm}$ max for $\pm 5\%$ input voltage change
Load Change	负载变化	$\pm 0.2\text{ppm}$ max for $\pm 10\%$ load condition change
Reflow	回流焊	$\pm 1.0\text{ppm}$ max. 1 reflow and measured 24hs afterwards
Duty Cycle	占空比	45~55%
Rise & Fall Time	上升下降时间	100ns max.
Start-up Time	起振时间	1s max at +25°C; 3s max over -40~+85°C
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	± 0.5	± 1.0	± 2.0	± 2.5	± 3.0	± 5.0
A	-10~60°C	○	○	○	○	○	○
B	-20~70°C	○	○	○	○	○	○
C	-40~85°C		○	○	○	○	○

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

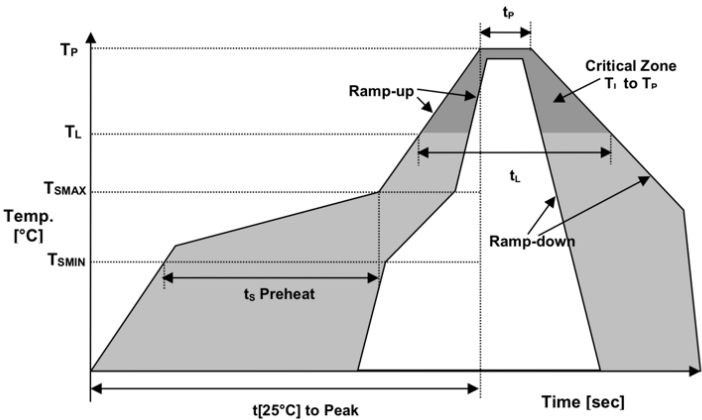
Outline Dimensions (Unit: mm) 外形尺寸



Part Number Guide 产品编号

KT3225	-	32.768	-	33	-	C	-	03	-	NS
↓		↓		↓		↓		↓		↓
型号	-	标称频率	-	工作电压	-	工作温度	-	温度频差	-	特殊要求
‘KT’:温补系列				18=1.8V	A: -10~+60°C		A5 = ±0.5ppm			
KT: TCXO				25=2.5V	B: -20~+70°C		01 = ±1.0ppm			
‘3225’:封装尺寸				30=3.0V	C: -40~+85°C		02 = ±2.0ppm			
3.2x2.5mm				33=3.3V			025 = ±2.5ppm			
				50=5.0V			03 = ±3.0ppm			
							05 = ±5.0ppm			

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°C] to peak temperature	25度到最高温度时间	t[25°C] to peak	480 sec
Time	时间	t _L	60~150 sec