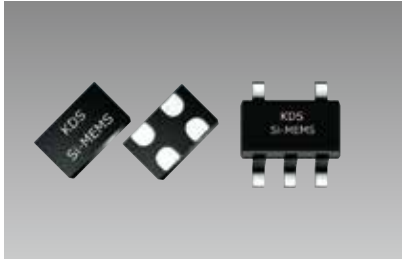


MEMS振荡器 - Low Power

MO8008/MO8009/MO2001/MO2002



■ 优点

- 频率公差: $\pm 20 \times 10^{-6}$
- 低消耗电流: +3.5 mA (typical, $f = 20\text{MHz}$, $V_{dd} = +1.8\text{V}$)

■ 用途

- DSC、DVC、DVR、IP CAM、平板电脑、e-Books、SSD、GPON、EPON
- High-speed serial protocols (USB、SATA、SAS、Firewire、100M/1G/10G Ethernet)



型号	频率范围 (MHz)	频率公差 ($\times 10^{-6}$)	电源电压 (V)	消耗电流 (mA Typ.)	尺寸 (mm)	输出
MO8008	1 to 110	$\pm 20, \pm 25, \pm 50$	+1.62 to +1.98, +2.25 to +3.63	+3.1 to +5.4 (+0.6 to +1.0 μA stby)	2.0 \times 1.6 \times 0.8, 2.5 \times 2.0 \times 0.8, 3.2 \times 2.5 \times 0.8, 5.0 \times 3.2 \times 0.8, 7.0 \times 5.0 \times 1.0 (QFN)	LVCMOS
MO8009	115 to 137					
MO2001	1 to 110					
MO2002	115 to 137				2.9 \times 2.8 \times 1.3 (SOT23-5)	

■ 一般规格(MO8008)

项目	符号	Min.	Typ.	Max.	单位	条件
输出频率范围	f	1	-	110	MHz	
电源电压	V _{dd}	+1.62	+1.8	+1.98	V	
		+2.25	+2.5	+2.75		
		+2.52	+2.8	+3.08		
		+2.7	+3.0	+3.3		
		+2.97	+3.3	+3.63		
运行温度范围	T _{use}	-20	-	+70	°C	Extended Commercial
		-40	-	+85		Industrial
频率公差	F _{stab}	-20	-	+20	$\times 10^{-6}$	包含 +25°C 时的初始频率偏差, 长年老化 (1 年), 温度特性, 运行电源电压范围内的电源电压特性, 负载特性。
		-25	-	+25		
		-50	-	+50		
消耗电流	I _{dd}	-	+3.8	+4.5	mA	No load condition, $f = 20\text{ MHz}$, $V_{dd} = +2.8\text{V}$ to +3.3V
		-	+3.7	+4.2		No load condition, $f = 20\text{ MHz}$, $V_{dd} = +2.5\text{V}$
		-	+3.5	+4.1		No load condition, $f = 20\text{ MHz}$, $V_{dd} = +1.8\text{V}$
OE 端子禁用电流	I _{od}	-	-	+4.2	mA	$V_{dd} = +2.5\text{V}$ to +3.3V, OE = GND, Output in high-Z state
		-	-	+4.0		$V_{dd} = +1.8\text{V}$, OE = GND, Output in high-Z state
待机时电流	I _{std}	-	+2.1	+4.3	μA	$\overline{\text{ST}} = \text{GND}$, $V_{dd} = +2.8\text{V}$ to +3.3V, Output is weakly pulled down
		-	+1.1	+2.5		$\overline{\text{ST}} = \text{GND}$, $V_{dd} = +2.5\text{V}$, Output is weakly pulled down
		-	+0.2	+1.3		$\overline{\text{ST}} = \text{GND}$, $V_{dd} = +1.8\text{V}$, Output is weakly pulled down
占空比	DC	45	-	55	%	All V _{dds}
0 电平电压	V _{OL}	-	-	V _{dd} \times 0.1	V	I _{OL} = +4.0 mA ($V_{dd} = +3.0\text{V}$ or +3.3V) I _{OL} = +3.0 mA ($V_{dd} = +2.8\text{V}$ and $V_{dd} = +2.5\text{V}$) I _{OL} = +2.0 mA ($V_{dd} = +1.8\text{V}$)
1 电平电压	V _{OH}	V _{dd} \times 0.9	-	-	V	I _{OH} = -4.0 mA ($V_{dd} = +3.0\text{V}$ or +3.3V) I _{OH} = -3.0 mA ($V_{dd} = +2.8\text{V}$ and $V_{dd} = +2.5\text{V}$) I _{OH} = -2.0 mA ($V_{dd} = +1.8\text{V}$)
上升时间 下降时间	Tr, Tf	-	1.0	2.0	ns	$V_{dd} = +2.5\text{V}$, +2.8V, +3.0V or +3.3V, 20% to 80%
		-	1.3	2.5		$V_{dd} = +1.8\text{V}$, 20% to 80%
		-	-	2.0		$V_{dd} = +2.25\text{V}$ to +3.63V, 20% to 80%
OE 端子 0 电平输入电压	V _{IL}	-	-	V _{dd} \times 0.3	V	Pin 1, OE or $\overline{\text{ST}}$
OE 端子 1 电平输入电压	V _{IH}	V _{dd} \times 0.7	-	-	V	Pin 1, OE or $\overline{\text{ST}}$
启动时间	T _{start}	-	-	5.0	ms	V _{dd} 达到额定最小值以后经过的时间
输出使能时间 输出禁用时间	T _{oe}	-	-	130	ns	$f = 110\text{ MHz}$. For other frequencies, T _{oe} = 100 ns + 3 \times cycles
重启时间	T _{resume}	-	-	5.0	ms	$\overline{\text{ST}}$ 端子达到界限值 50% 以后经过的时间
RMS 周期抖动	T _{jitt}	-	1.8	3.0	ps	$f = 75\text{ MHz}$, $V_{dd} = +2.5\text{V}$, +2.8V, +3.0V or +3.3V
		-	1.8	3.0		$f = 75\text{ MHz}$, $V_{dd} = +1.8\text{V}$
Peak-to-peak 周期抖动	T _{pk}	-	12	25	ps	$f = 75\text{ MHz}$, $V_{dd} = +2.5\text{V}$, +2.8V, +3.0V or +3.3V
		-	14	30		$f = 75\text{ MHz}$, $V_{dd} = +1.8\text{V}$
RMS 相位抖动 (随机)	T _{phj}	-	0.5	0.9	ps	$f = 75\text{ MHz}$, Integration bandwidth = 900 kHz to 7.5 MHz
		-	1.3	2.0		$f = 75\text{ MHz}$, Integration bandwidth = 12 kHz to 20 MHz
包装单位	1000pcs./reel ($\phi 180$) or 3000pcs./reel ($\phi 180$: 2016, 2520, 3225 package)					