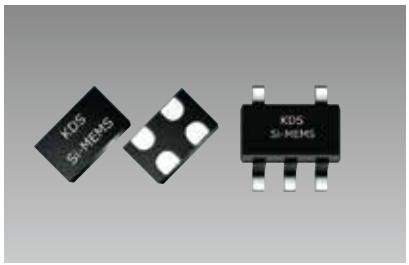
MEMS振荡器 - Low Power

MO8008/MO8009/MO2001/MO2002



■ 优点

- 频率公差：±20×10^{-6}
- 低消耗电流：+3.5 mA (typical、f = 20MHz、Vdd = +1.8V)

■ 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)

无铅

RoHS对应

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

■ 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	Vdd	+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		
		+2.25	–	+3.63		
运行温度范围	T_use	−20	–	+70	℃	Extended Commercial
		−40	–	+85		Industrial
频率公差	F_stab	−20	–	+20	×10^{-6}	包含 +25℃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	Idd	–	+3.8	+4.5	mA	No load condition, f = 20 MHz, Vdd = +2.8V to +3.3V
		–	+3.7	+4.2		No load condition, f = 20 MHz, Vdd = +2.5V
		–	+3.5	+4.1		No load condition, f = 20 MHz, Vdd = +1.8V
OE 端子禁用电流	I_od	–	–	+4.2	mA	Vdd = +2.5V to +3.3V, OE = GND, Output in high-Z state
		–	–	+4.0		Vdd = +1.8V, OE = GND, Output in high-Z state
待机时电流	I_std	–	+2.1	+4.3	μA	$\overline{ST}$ = GND, Vdd = +2.8V to +3.3V, Output is weakly pulled down
		–	+1.1	+2.5		$\overline{ST}$ = GND, Vdd = +2.5V, Output is weakly pulled down
		–	+0.2	+1.3		$\overline{ST}$ = GND, Vdd = +1.8V, Output is weakly pulled down
占空比	DC	45	–	55	%	All Vdds
0 电平电压	V_{OL}	–	–	Vdd×0.1	V	I_{OL} = +4.0 mA (Vdd = +3.0V or +3.3V) I_{OL} = +3.0 mA (Vdd = +2.8V and Vdd = +2.5V) I_{OL} = +2.0 mA (Vdd = +1.8V)
1 电平电压	V_{OH}	Vdd×0.9	–	–	V	I_{OH} = − 4.0 mA (Vdd = +3.0V or +3.3V) I_{OH} = − 3.0 mA (Vdd = +2.8V and Vdd = +2.5V) I_{OH} = − 2.0 mA (Vdd = +1.8V)
上升时间 下降时间	Tr, Tf	–	1.0	2.0	ns	Vdd = +2.5V, +2.8V, +3.0V or +3.3V, 20% to 80%
		–	1.3	2.5		Vdd = +1.8V, 20% to 80%
		–	–	2.0		Vdd = +2.25V to +3.63V, 20% to 80%
OE 端子 0 电平输入电压	V_{IL}	–	–	Vdd×0.3	V	Pin 1, OE or $\overline{ST}$
OE 端子 1 电平输入电压	V_{IH}	Vdd×0.7	–	–	V	Pin 1, OE or $\overline{ST}$
启动时间	T_start	–	–	5.0	ms	Vdd 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 MHz. For other frequencies, T_oe = 100 ns + 3×cycles
重起时间	T_resume	–	–	5.0	ms	$\overline{ST}$ 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 MHz, Vdd = +2.5V, +2.8V, +3.0V or +3.3V
		–	1.8	3.0		f = 75 MHz, Vdd = +1.8V
Peak-to-peak 周期抖动	T_pk	–	12	25	ps	f = 75 MHz, Vdd = +2.5V, +2.8V, +3.0V or +3.3V
		–	14	30		f = 75 MHz, Vdd = +1.8V
RMS 相位抖动（随机）	T_phj	–	0.5	0.9	ps	f = 75 MHz, Integration bandwidth = 900 kHz to 7.5 MHz
		–	1.3	2.0		f = 75 MHz, Integration bandwidth = 12 kHz to 20 MHz
包装单位	1000pcs./reel (φ180) or 3000pcs./reel (φ180: 2016, 2520, 3225 package)					