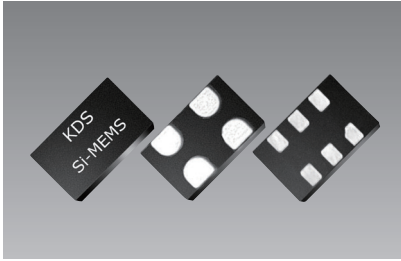


压控MEMS振荡器(VCMO)

MO3807/MO3808/MO3809



■ 优点

- 频率公差: $\pm 25 \times 10^{-6}$
- 频率可变范围: $\pm 25 \sim \pm 1600 \times 10^{-6}$
- 外形尺寸:
2.7×2.4 mm (4端子, compatible with 2.5×2.0 footprint),
3.2×2.5 mm (4端子), 5.0×3.2 mm (6端子), 7.0×5.0 mm (6端子)

■ 用途

- Telecom clock synchronization, instrumentation
- Low bandwidth analog PLL, jitter cleaner, clock recovery, 音响
- 视频、宽带调制解调器、网络设备、3G/HD-SDI, FPGA



| 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 |
|--------|-------------------------|---------------------------|--------------------------------|-------------------------------|--|--------|
| MO3807 | 30 standard frequencies | $\pm 25, \pm 50$ | +1.71 to +1.89, +2.25 to +3.63 | +29 to +36 (+10 μ A stby) | 2.7×2.4×0.8, 3.2×2.5×0.8, 5.0×3.2×0.8, 7.0×5.0×1.0 (QFN) | LVCMOS |
| MO3808 | 1 to 80 | $\pm 10, \pm 25, \pm 50$ | | | | |
| MO3809 | 80 to 220 | | | | | |

■ 一般规格(MO3808)

| 项目 | 符号 | Min. | Typ. | Max. | 单位 | 条件 |
|------------------|--|--|------------------------------|----------------------------------|------------------|--|
| 输出频率范围 | f | 1 | - | 80 | MHz | |
| 电源电压 | V _{dd} | +1.71 +2.25 +2.52 +2.97 | +1.8 +2.5 +2.8 +3.3 | +1.89 +2.75 +3.08 +3.63 | V | Additional supply voltages between +2.5V and +3.3V can be supported. |
| 运行温度范围 | T _{use} | -20 -40 | - - | +70 +85 | °C | Extended Commercial Industrial |
| 频率公差 | F _{stab} | -10 -25 -50 | - - - | +10 +25 +50 | $\times 10^{-6}$ | 包含 +25°C 时的初始频率偏差 [4]、温度特性、运行电源电压范围内的电源电压特性、负载特性。 |
| 长期老化 (10 年) | F _{aging10} | -5.0 | - | +5.0 | $\times 10^{-6}$ | 10 years, T _A = +25°C |
| 消耗电流 | I _{dd} | - - | +31 +29 | +33 +31 | mA | No load condition, f = 20 MHz, V _{dd} = +2.5V, +2.8V or +3.3V No load condition, f = 20 MHz, V _{dd} = +1.8V |
| 待机时电流 | I _{std} | - - | - - | +70 +10 | μ A | V _{dd} = +2.5V, +2.8V, +3.3V, ST = GND, Output is weakly pulled down V _{dd} = +1.8V, ST = GND, Output is weakly pulled down |
| 占空比 | DC | 45 | - | 55 | % | All V _{dds} |
| 0 电平电压 | V _{OL} | - | - | V _{dd} ×0.1 | V | I _{OL} = +7.0 mA (V _{dd} = +3.0V or +3.3V) I _{OL} = +4.0 mA (V _{dd} = +2.8V or +2.5V) I _{OL} = +2.0 mA (V _{dd} = +1.8V) |
| 1 电平电压 | V _{OH} | V _{dd} ×0.9 | - | - | V | I _{OH} = -7.0 mA (V _{dd} = +3.0V or +3.3V) I _{OH} = -4.0 mA (V _{dd} = +2.8V or +2.5V) I _{OH} = -2.0 mA (V _{dd} = +1.8V) |
| 上升时间、下降时间 | Tr, Tf | - | 1.5 | 2.0 | ns | V _{dd} = +1.8V, +2.5V, +2.8V or +3.3V, 10% - 90% V _{dd} level |
| 频率可变范围 [5,6] | PR | $\pm 25, \pm 50, \pm 100, \pm 150, \pm 200, \pm 400, \pm 800, \pm 1600,$ | - | - | $\times 10^{-6}$ | See the Absolute Pull Range and APR table of datasheet |
| 1 电平控制电压 | VC _U | +1.7 +2.4 +2.7 +3.2 | - - - - | - - - - | V | V _{dd} = +1.8V, Voltage at which maximum deviation is guaranteed. V _{dd} = +2.5V, Voltage at which maximum deviation is guaranteed. V _{dd} = +2.8V, Voltage at which maximum deviation is guaranteed. V _{dd} = +3.3V, Voltage at which maximum deviation is guaranteed. |
| 0 电平控制电压 | VC _L | - | - | +0.1 | V | Voltage at which minimum deviation is guaranteed. |
| 输入阻抗 | Z _{in} | 100 | - | - | k Ω | |
| 入力容量 | C _{in} | - | 5.0 | - | pF | |
| 线性 | Lin | - | 0.1 | 1.0 | % | |
| 频率变化极性 | - | Positive slope | | - | - | |
| 启动时间 | T _{start} | - | - | 10 | ms | |
| 输出使能时间 输出禁用时间 | T _{oe} | - | - | 180 | ns | f = 40MHz, all V _{dds} , For other freq., T _{oe} = 100 ns + 3 clock periods |
| 重启时间 | T _{resume} | - | 7.0 | 10 | ms | |
| RMS 周期抖动 | T _{jitt} | - - | 1.5 2.0 | 2.0 3.0 | ps | f = 20 MHz, V _{dd} = +2.5V, +2.8V or +3.3V f = 20 MHz, V _{dd} = +1.8V |
| RMS 相位抖动 (随机) | T _{phj} | - | 0.5 | 1.0 | ps | f = 20 MHz, Integration bandwidth = 12 kHz to 20 MHz, All V _{dds} |
| 包装单位 | 1000pcs./reel (ϕ 180) or 3000pcs./reel (ϕ 180: 2724, 3225 package) | | | | | |

[1]. 上述电气特性, 除指定外, 输出负载15pF, 通过全部电源电压规定
 [2]. Typical值是在TA = +25 °C、电源电压为额定最大值时规定的。
 [3]. 除指定外, 在Max/Min内的运行电源电压及运行温度保证
 [4]. 初始频率偏差在Vin = V_{dd}/2测量
 [5]. 绝对频率可变范围(APR)根据运行电源电压范围及运行温度范围内的频率可变范围定义
 [6]. APR = 频率可变范围(PR) - 频率公差 (F_{stab}) - 长期老化 (F_{aging})