

CMC254-SERIES



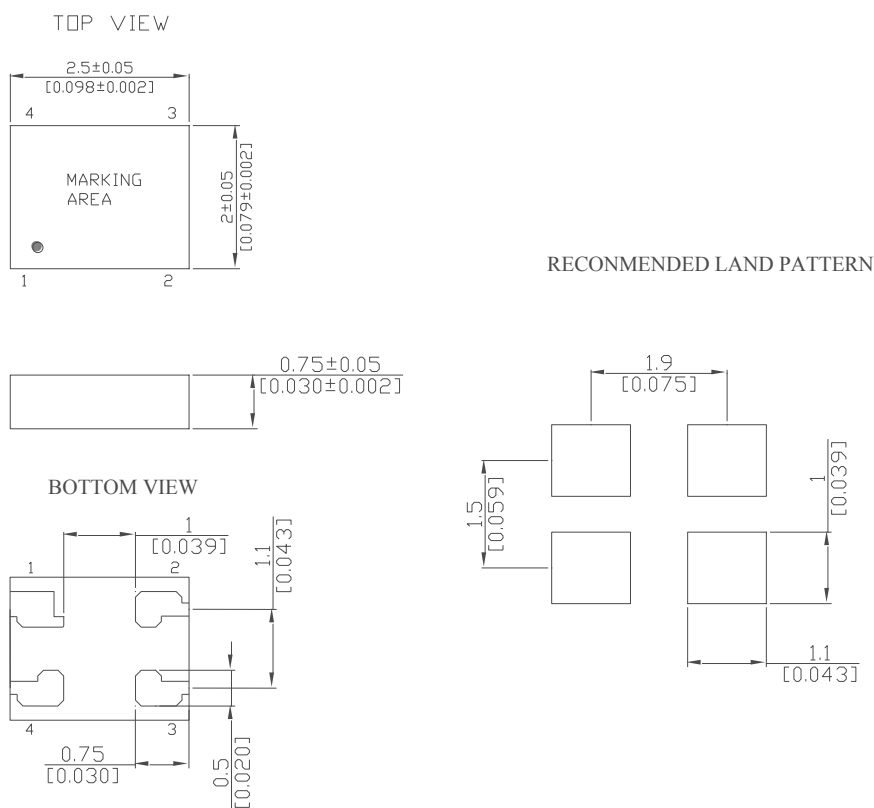
- Ultra low phase jitter: 0.5ps (12kHz to 20MHz)
- LVCMOS/ LVTTTL compatible output
- SMD package 2.5 x 2.0 mm

ELECTRICAL SPECIFICATIONS

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
Frequency Range	f_0	Any Frequency between Frequency range, accurate to 6 decimal places	80		220	MHz
Supply Voltage	V_s	Supply voltages between 2.5V and 3.3V can be supported in increments of 0.1V	1.71	1.8	1.89	V
			2.25	2.5	2.75	V
			2.52	2.8	3.08	V
			2.97	3.3	3.63	V
Supply Current	I_s	$V_s = 1.8V, f_0=100MHz$, no load		30	33	mA
		$V_s = 2.5V, 2.8V$ and $3.3V f_0=100MHz$, no load		34	36	mA
Operating Temperature	T_a	Extended Commercial Industrial	-20		+70	°C
			-40		+85	°C
Frequency Stability	$\Delta f/f_0$	Including First Year aging, initial frequency tolerance at 25°C, Frequency stability over temperature range, supply variation, load variation	-20 -25 -50		+20 +25 +50	ppm ppm ppm
Long term stability, aging	$\Delta f/\Delta t_y$ $\Delta f/\Delta t_y$	First year 10 years	-1.5		1.5	ppm
			-5.0		5.0	ppm
Enable / Disable Time	$T_{E/D}$	$f_0=220MHz$, for other frequencies, $T_{E/D} = 100ns + 3$ cycles			115	ms
Enable / Disable Current	$I_{E/D}$	$V_s=1.8V, E/D =GND$, output is weakly pulled down $V_s=2.5V, 2.8V$ or $3.3V, E/D =GND$ output is weakly pulled down			30	mA
					31	mA
Standby Current	I_{stby}	STBY=GND, $V_s=1.8V$ STBY=GND, $V_s=2.5V, 2.8V$ or $3.3V$ Output is weakly pulled down			10	μA
					70	μA
Startup Time	T_{ST}	Measured from the time V_s reaches its rated maximum value		6	10	ms
Resume Time	T_{res}	Measured from the time STBY pin crosses 50% threshold			10	ms
Rise/ Fall Time	T_r / T_f	$CL = 15pF, 10\% - 90\% V_s$		1.5	2.0	ns
RMS Phase Jitter	J_{PH}	$f_0=156.25MHz, BW 12KHz$ to 20MHz		0.6	1.0	ps
RMS Period Jitter	J_P	$f_0=156.25MHz, V_s=2.5V, 2.8V$ or $3.3V$ $f_0=156.25MHz, V_s=1.8V$		1.5	2.0	ps
				2.0	3.0	ps
Input Voltage High	V_{IH}	Pin 1, E/D or STBY	70%			V_s
Input Voltage Low	V_{IL}	Pin 1, E/D or STBY			30%	V_s
Input pull-up impedance	Z_{in}			100	250	k Ω

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MECHANICAL DIMENSIONS AND PIN FUNCTIONING



PIN	SYMBOL	FUNCTION
1	E/D/STBY	E/D H or Open* :Enable output frequency L :Disable output frequency , high impedance STBY H or Open* : Enable output frequency L : Output is low (weak pull down) Device goes to sleep mode. Supply current (Is) reduces to Istby
2	GND	Electrical Ground
3	OUTPUT	Output Signal
4	Vs	Supply Voltage

Note: *A pull-up resistor of <10kΩ between ED/STBY pin and Vs is recommended in high noise environment.