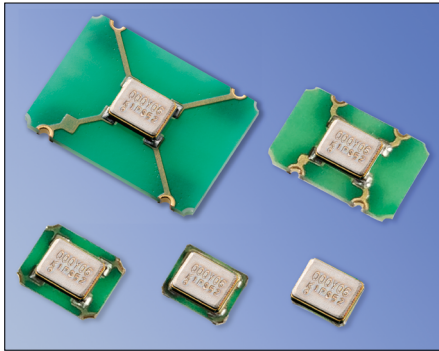




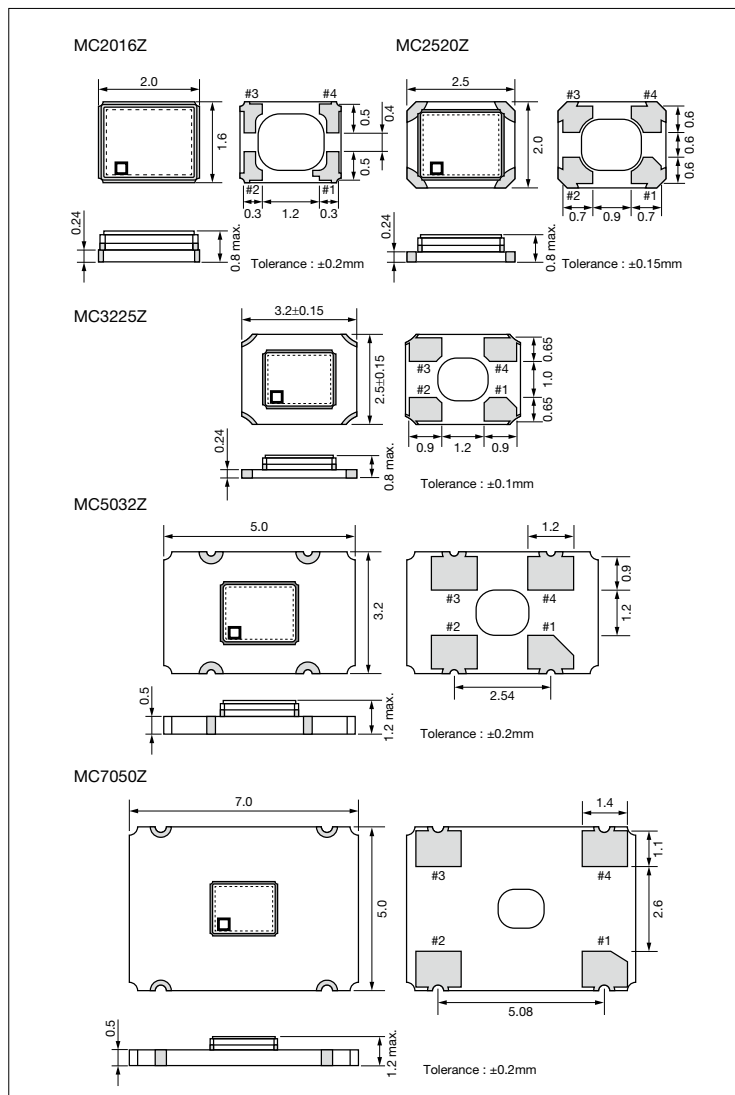
CMOS/ 1.8V, 2.5V, 3.3V / 2.0×1.6, 2.5×2.0, 3.2×2.5, 5.0×3.2, 7.0×5.0mm for Automotive



AEC-Q100/200 RoHS Compliant

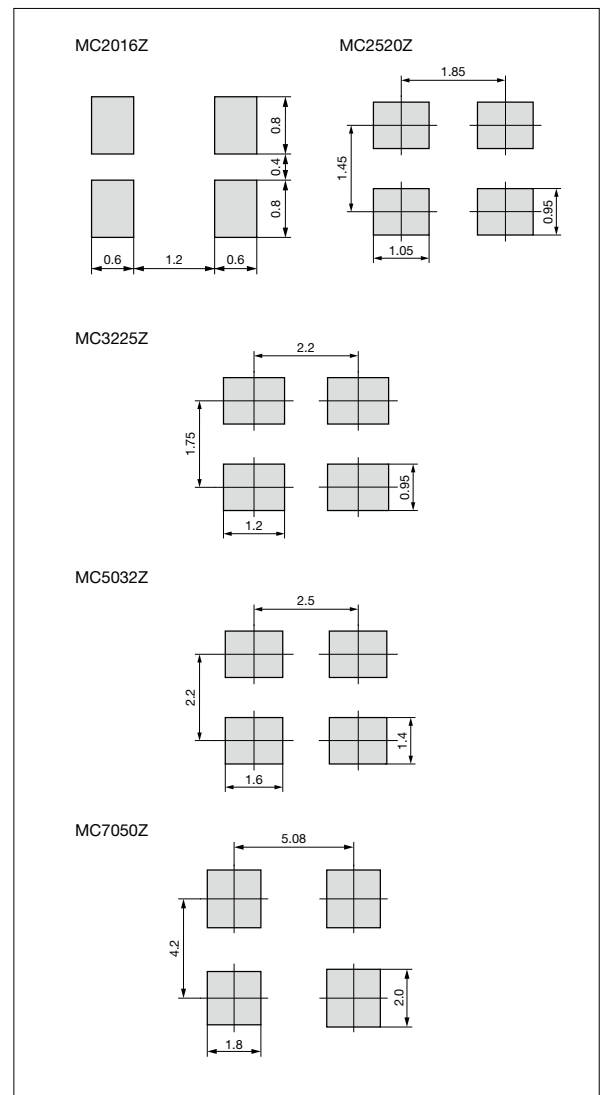
Dimensions

(Unit : mm)



Recommended Land Pattern

(Unit : mm)

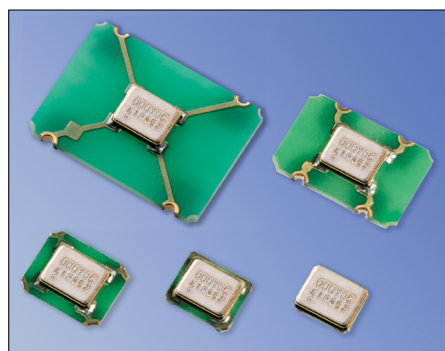


Pad Connections	
#1	Stand-by Function
#2	Case GND
#3	Output
#4	Vcc

Stand-by Function	
Pad1	Pad3 (Output)
Open	Active
"H" Level	Active
"L" Level	High Z (No-Oscillation)



CMOS/ 1.8V, 2.5V, 3.3V / 2.0×1.6, 2.5×2.0, 3.2×2.5, 5.0×3.2, 7.0×5.0mm for Automotive



AEC-Q100/200 RoHS Compliant

Features

- Frequency Range 0.5 to 170 MHz
- CMOS Output
- Short Lead Time
- Heat resistant up to +125°C

Applications

- Automotive

Table 5

Freq. Tol.	Operating Temperature Range (°C)	Note
Code × 10 ⁻⁶		
G ± 50	-40 to +85	For additional stability, please contact us.
H ± 30		
J ± 25		
K ± 20	-40 to +105	
6 ± 50		
5 ± 30		
X ± 100	-40 to +125	
Z ± 50		
9 ± 30		

How to Order

MC□□□□Z 25.0000 C 1 □ X SH
① ② ③ ④ ⑤ ⑥ ⑦

①Series

MC2016Z	2016 Size	MC2520Z	2520 Size
MC3225Z	3225 Size	MC5032Z	5032 Size
MC7050Z	7050 Size		

②Output Frequency (25.0000 : 25MHz)

③Output Type (C : CMOS)

④Supply Voltage

(1 : 1.8V/ 2.5V/ 3.3V Compatible)

⑤Frequency Tolerance (See Table 5)

⑥Symmetry/ INH Function

X	45/ 55%
---	---------

⑦Individual Specification

(STD Specification is "SH".)

Packaging Tape&Reel

MC7050Z/ MC5032Z	1000 pcs./ reel
MC3225Z/ MC2520Z/ MC2016Z	2000 pcs./ reel

Specifications

Item	Symbol	Conditions	Min.	Max.	Unit
Output Frequency Range	f_o		0.5	170	MHz
Frequency Tolerance	f_{tol}	Initial tolerance, Operating temperature range, Rated power supply voltage change, Load change, Aging (1 year @25°C), Shock and vibration	See Table 5		
Storage Temperature Range	T_{stg}		-55	150	°C
Operating Temperature Range	T_{use}		See Table 5		
Max. Supply Voltage	—		-0.3	4.5	V
Supply Voltage	V_{cc}		1.71	3.63	V
Current Consumption (Noload/ 1.71≤ V_{cc} ≤2.25)	I_{cc}	0.5≤ f_o <5MHz	—	5.2	mA
		5≤ f_o <15MHz	—	5.8	
		15≤ f_o <30MHz	—	6.2	
		30≤ f_o <50MHz	—	6.8	
		50≤ f_o <60MHz	—	6.8	
		60< f_o <75MHz	—	9	
		75≤ f_o <105MHz	—	10	
		105≤ f_o <130MHz	—	10.5	
		130≤ f_o <160MHz	—	11.5	
Current Consumption (Noload/ 2.25< V_{cc} ≤2.8)	I_{cc}	160≤ f_o ≤170MHz	—	12.5	
		0.5≤ f_o <5MHz	—	5.5	
		5≤ f_o <15MHz	—	6	
		15≤ f_o <30MHz	—	6.5	
		30≤ f_o <50MHz	—	7.2	
		50≤ f_o <60MHz	—	7.4	
		60< f_o <75MHz	—	10	
		75≤ f_o <105MHz	—	11.5	
		105≤ f_o <130MHz	—	12.5	
Current Consumption (Noload/ 2.8< V_{cc} ≤3.63)	I_{cc}	130≤ f_o <160MHz	—	14	
		160≤ f_o ≤170MHz	—	15	
		0.5≤ f_o <5MHz	—	5.8	
		5≤ f_o <15MHz	—	6.5	
		15≤ f_o <30MHz	—	7.3	
		30≤ f_o <50MHz	—	8	
		50≤ f_o <60MHz	—	8.5	
		60< f_o <75MHz	—	12.5	
		75≤ f_o <105MHz	—	14.5	
Stand-by Current	I_{std}	105≤ f_o <130MHz	—	15.5	μA
		130≤ f_o <160MHz	—	18	
		160≤ f_o ≤170MHz	—	19.5	
			—	5	
Symmetry	SYM	@50% V_{cc}	45	55	%
Rise/ Fall Time (20% to 80% Output Level)	T_r/ T_f	0.5≤ f_o ≤60MHz	Loaded/ 1.71≤ V_{cc} ≤2.25	4	ns
			Loaded/ 2.25< V_{cc} ≤2.8	3	
			Loaded/ 2.8< V_{cc} ≤3.63	2.5	
		60< f_o ≤170MHz	Loaded/ 1.71≤ V_{cc} ≤2.25	1.5	
			Loaded/ 2.25< V_{cc} ≤2.8	1.3	
			Loaded/ 2.8< V_{cc} ≤3.63	1	
Low Level Output Voltage	V_{OL}	$I_{OL} = 5mA$	—	10% V_{cc}	V
High Level Output Voltage	V_{OH}	$I_{OH} = -5mA$	90% V_{cc}	—	V
Output Load (CMOS)	L CMOS		—	15	pF
Low Level Input Voltage	V_{IL}		—	30% V_{cc}	V
High Level Input Voltage	V_{IH}		70% V_{cc}	—	V
Disable Time	t_{dis}		—	200	ns
Enable Time	t_{ena}		—	5	ms
Start-up Time	t_{str}	@Minimum operating voltage to be 0 sec.	—	5	ms

All electrical characteristics are defined at the maximum load and operating temperature range.