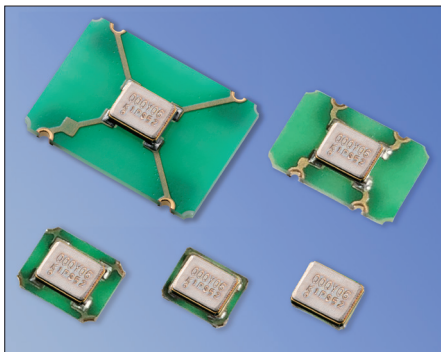




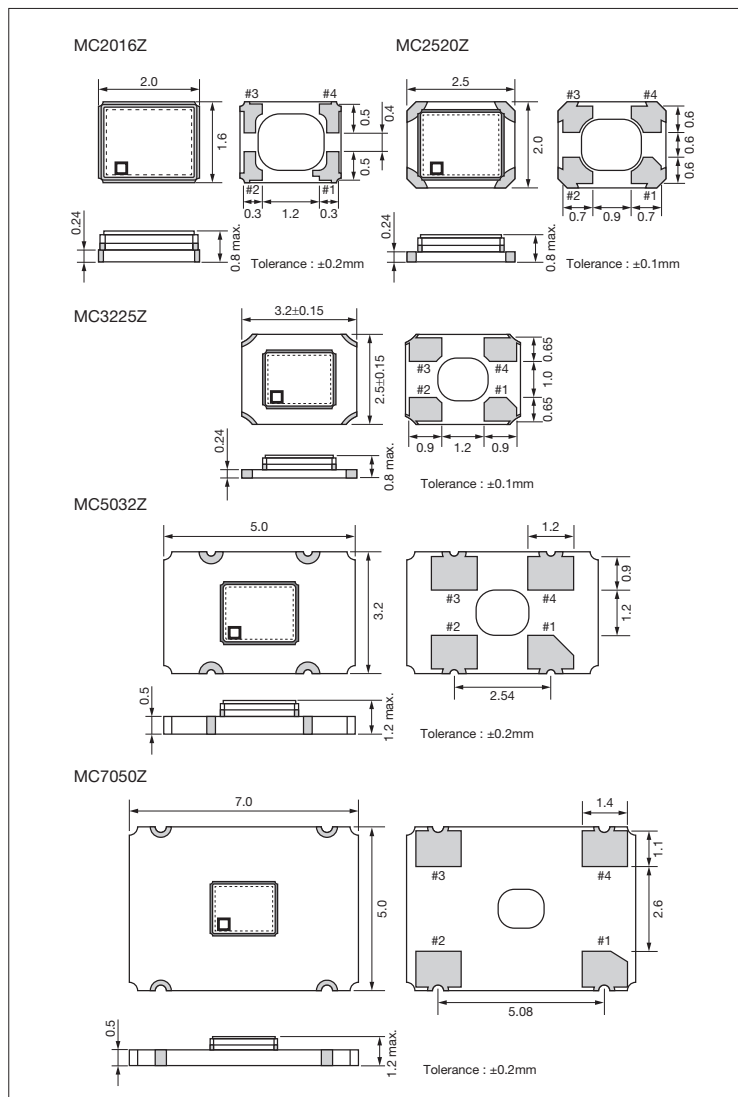
CMOS/ 1.8V, 2.5V, 3.3V / 2.0×1.6, 2.5×2.0, 3.2×2.5, 5.0×3.2, 7.0×5.0mm for Automotive



AEC-Q100/ 200 RoHS Compliant

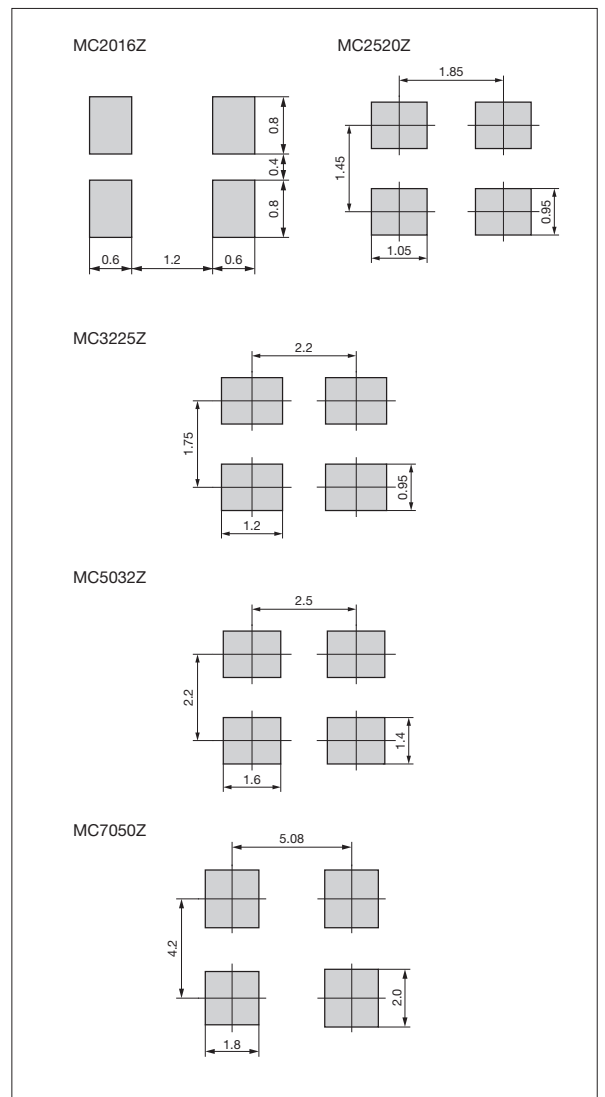
Dimensions

(Unit : mm)



Recommended Land Pattern

(Unit : mm)

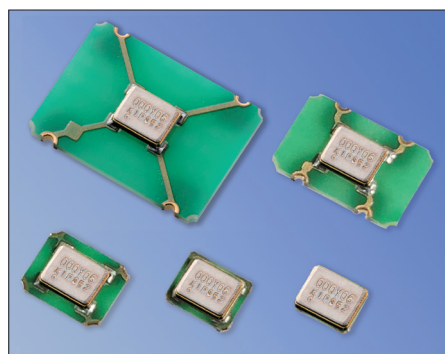


Pad Connections	
#1	INH
#2	Case GND
#3	Output
#4	Vcc

INH 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 24 to 72 MHz
- CMOS Output
- Low Jitter
- Heat resistant up to +125°C

Applications

- Automotive (Radar, Camera, Network)

Table 7

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

How to Order

MC□□□□Z 25.0000 C 1 □ Y 00
① ② ③ ④ ⑤ ⑥ ⑦

① Series

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

② Output Frequency (25.0000 : 25MHz)

③ Output Type (C : CMOS)

④ Supply Voltage

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

⑤ Frequency Tolerance (See Table 7)

⑥ Symmetry/ INH Function

Y	STD/ Low Jitter 45/ 55%
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⑦ Individual Specification

(STD Specification is "00")

Packaging Tape&Reel

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

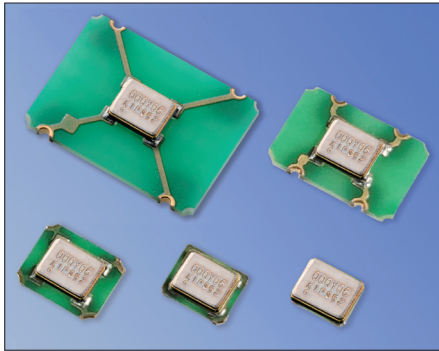
Specifications

Item	Symbol	Conditions	Min.	Max.	Units	
Output Frequency Range	fo		24	72	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 7			
Storage Temperature Range	T _{stg}		-55	150	°C	
Operating Temperature Range	T _{use}		See Table 7			
Max. Supply Voltage	—		-0.3	4.5	V	
Supply Voltage	V _{cc}	Code: ④ : 1	1.71	1.89	V	
		Code: ④ : 2	2.25	2.75		
		Code: ④ : 3	2.97	3.63		
Current Consumption (Noload/ 1.71≤V _{cc} ≤1.89)	I _{cc}	24≤fo<30MHz	—	2.7	mA	
		30≤fo<50MHz	—	3.3		
		50≤fo≤60MHz	—	3.7		
		60<fo<72MHz	—	4		
Current Consumption (Noload/ 2.25<V _{cc} ≤2.75)	I _{cc}	24≤fo<30MHz	—	3.5		
		30≤fo<50MHz	—	4		
		50≤fo≤60MHz	—	4.3		
		60<fo<72MHz	—	4.8		
Current Consumption (Noload/ 2.97<V _{cc} ≤3.63)	I _{cc}	24≤fo<30MHz	—	4		
		30≤fo<50MHz	—	5		
		50≤fo≤60MHz	—	5.5		
		60<fo<72MHz	—	6		
Stand-by Current	I _{std}		—	5	μA	
Symmetry	SYM	@50% V _{cc}	24≤fo≤40MHz	40	55	%
			40<fo≤72MHz	45	55	
Rise/ Fall Time (20% to 80% Output Level)	Tr/ Tf	Loaded/ 1.71≤V _{cc} ≤1.89	—	4	ns	
		Loaded/ 2.25≤V _{cc} ≤2.75	—	3.2		
		Loaded/ 2.97≤V _{cc} ≤3.63	—	2.7		
Low Level Output Voltage	V _{OL}	I _{OL} = 4mA	—	10% V _{cc}	V	
High Level Output Voltage	V _{OH}	I _{OH} = -4mA	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	
1 Sigma Jitter	J _{sigma}	Measured with Wavecrest SIA-3000	—	5	ps	
Peak to Peak Jitter	J _{PK-PK}		—	50		
Phase Jitter	—	@50MHz V _{cc} = 3.3V	BW : 12kHz to 20MHz		1	ps

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



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 24 to 72 MHz
- CMOS Output
- Tighter Tolerance
- Low Jitter
- Heat resistant up to +125°C

Applications

- Automotive (Radar, Camera, Network)

Table 8

Freq. Tol. Code	× 10 ⁻⁶	Operating Temperature Range (°C)	Note
A	± 2	-40 to +85	For additional stability, please contact us.
B	± 5	-40 to +105	
4	± 20	-40 to +105	
D	± 10	-40 to +125	

How to Order

MC Z 25.0000 C W 00
 ① ② ③ ④ ⑤ ⑥ ⑦

① Series

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

② Output Frequency (25.0000 : 25MHz)

③ Output Type (C : CMOS)

④ Supply Voltage

1	1.8V	2	2.5V
3	3.3V		

⑤ Frequency Tolerance (See Table 8)

⑥ Symmetry/ INH Function

W	STD 45/ 55%
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⑦ Individual Specification

(STD Specification is "00")

Packaging Tape&Reel

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

Specifications

Item	Symbol	Conditions	Min.	Max.	Units	
Output Frequency Range	f _o		24	72	MHz	
Frequency Tolerance	f _{tol}	Initial tolerance, Operating temperature range	See Table 8			
Storage Temperature Range	T _{stg}		-55	150	°C	
Operating Temperature Range	T _{use}		See Table 8			
Max. Supply Voltage	—		-0.3	4.5	V	
Supply Voltage	V _{cc}	Code: ④ : 1	1.71	1.89	V	
		Code: ④ : 2	2.25	2.75		
		Code: ④ : 3	2.97	3.63		
Current Consumption (Noload/ 1.71≤V _{cc} ≤1.89)	I _{cc}	24≤f _o <30MHz	—	2.7	mA	
		30≤f _o <50MHz	—	3.3		
		50≤f _o ≤60MHz	—	3.7		
		60<f _o <72MHz	—	4		
Current Consumption (Noload/ 2.25<V _{cc} ≤2.75)	I _{cc}	24≤f _o <30MHz	—	3.5	mA	
		30≤f _o <50MHz	—	4		
		50≤f _o ≤60MHz	—	4.3		
		60<f _o <72MHz	—	4.8		
Current Consumption (Noload/ 2.97<V _{cc} ≤3.63)	I _{cc}	24≤f _o <30MHz	—	4	mA	
		30≤f _o <50MHz	—	5		
		50≤f _o ≤60MHz	—	5.5		
		60<f _o <72MHz	—	6		
Stand-by Current	I _{std}		—	5	μA	
Symmetry	SYM	@50% V _{cc}	24≤f _o ≤40MHz	40	55	%
			40<f _o ≤72MHz	45	55	
Rise/ Fall Time (20% to 80% Output Level)	Tr/ Tf	Loaded/ 1.71≤V _{cc} ≤1.89	—	4	ns	
		Loaded/ 2.25≤V _{cc} ≤2.75	—	3.2		
		Loaded/ 2.97≤V _{cc} ≤3.63	—	2.7		
Low Level Output Voltage	V _{OL}	I _{OL} = 4mA	—	10% V _{cc}	V	
High Level Output Voltage	V _{OH}	I _{OH} = -4mA	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	
1 Sigma Jitter	J _{Sigma}	Measured with Wavecrest SIA-3000	—	5	ps	
Peak to Peak Jitter	J _{PK_PK}		—	50		
Phase Jitter	—	@50MHz V _{cc} = 3.3V	BW : 12kHz to 20MHz		1	ps

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