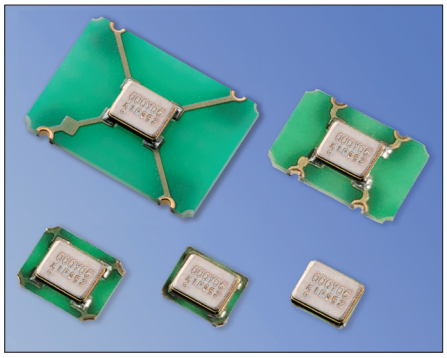
CMOS/ 1.8V, 2.5V, 3.3V/ 2.0×1.6, 2.5×2.0, 3.2×2.5, 5.0×3.2, 7.0×5.0mm

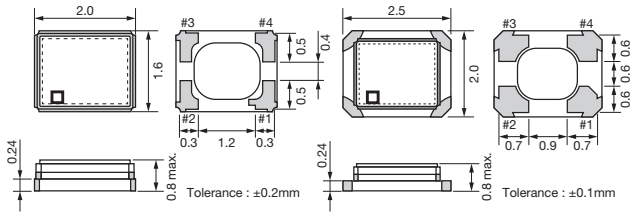


RoHS Compliant

Dimensions

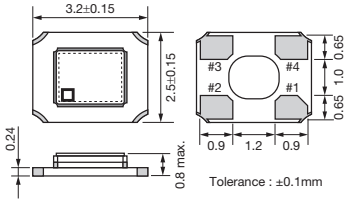
(Unit : mm)

KC2016Z

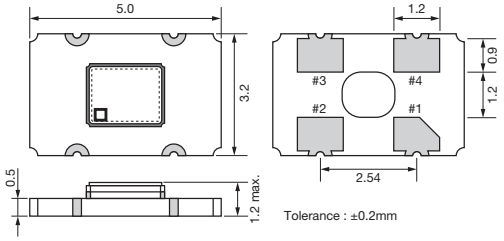


KC2520Z

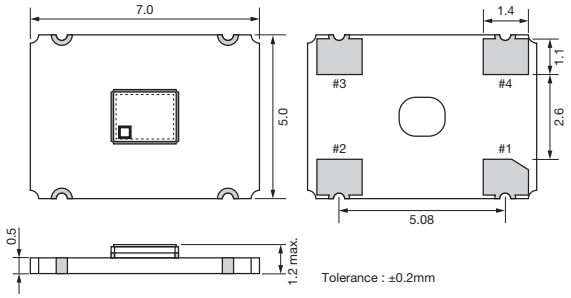
KC3225Z



KC5032Z



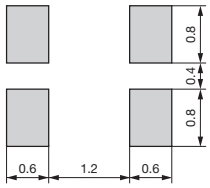
KC7050Z



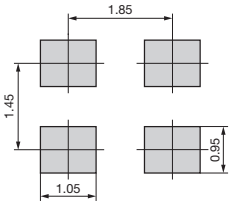
Recommended Land Patterns

(Unit : mm)

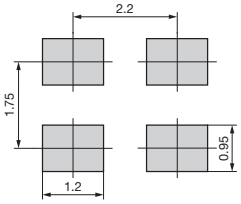
KC2016Z



KC2520Z



KC3225Z



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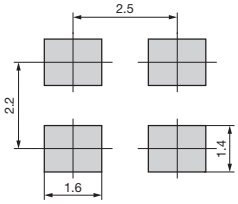
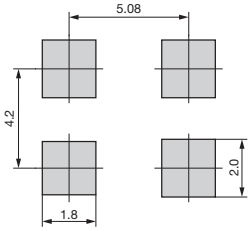


KC7050Z



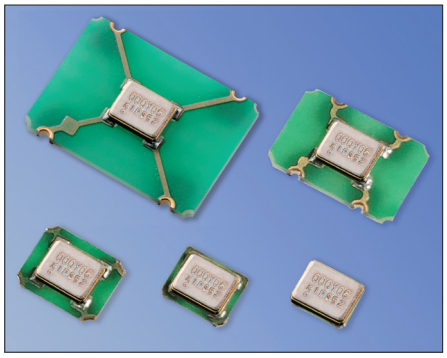
Pad Connections	
#1	INH
#2	Case GND
#3	Output
#4	Vcc

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

Clock Oscillators Surface Mount Type
Clock Z-Series "X" type (STD, Short LT type)

KYOCERA

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



RoHS Compliant

Features

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

Applications

- Consumer/ Networking/ Industrial/ Amuse

Table 1

Freq. Tol. Code	Freq. Tol. × 10^{-6}	Operating Temperature Range (°C)	Note
0	± 50	−10 to +70	For additional stability, please contact us.
S	± 30		
U	± 25		
W	± 20		
G	± 50	−40 to +85	
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

KC□□□□Z 25.0000 C 1 □ X 00
① ② ③ ④ ⑤ ⑥ ⑦

①Series

KC2016Z	2016 Size	KC2520Z	2520 Size
KC3225Z	3225 Size	KC5032Z	5032 Size
KC7050Z	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 1)
⑥Symmetry/ INH Function

X	STD 45/ 55%

⑦Individual Specification
(STD Specification is "00".)

Packaging Tape&Reel

KC7050Z/ KC5032Z	1000 pcs./ reel
KC3225Z/ KC2520Z/ KC2016Z	2000 pcs./ reel

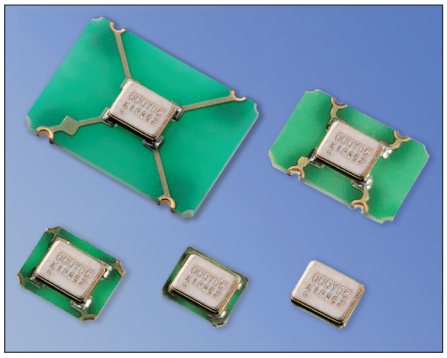
Specifications

Item	Symbol	Conditions		Min.	Max.	Unit
Output Frequency Range	fo			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 1.		
Storage Temperature Range	$T_{\_stg}$			−55	150	°C
Operating Temperature Range	$T_{\_use}$			See Table 1.		
Max. Supply Voltage	—			−0.3	4.5	V
Supply Voltage	Vcc			1.71	3.63	V
Current Consumption (Noload/ 1.71≤Vcc≤2.25)	Icc	0.5≤fo<5MHz		—	5.2	mA
		5≤fo<15MHz		—	5.8	
		15≤fo<30MHz		—	6.2	
		30≤fo<50MHz		—	6.8	
		50≤fo≤60MHz		—	6.8	
		60<fo<75MHz		—	9	
		75≤fo<105MHz		—	10	
		105≤fo<130MHz		—	10.5	
		130≤fo<160MHz		—	11.5	
		160≤fo≤170MHz		—	12.5	
Current Consumption (Noload/ 2.25<Vcc≤2.8)	Icc	0.5≤fo<5MHz		—	5.5	
		5≤fo<15MHz		—	6	
		15≤fo<30MHz		—	6.5	
		30≤fo<50MHz		—	7.2	
		50≤fo≤60MHz		—	7.4	
		60<fo<75MHz		—	10	
		75≤fo<105MHz		—	11.5	
		105≤fo<130MHz		—	12.5	
		130≤fo<160MHz		—	14	
		160≤fo≤170MHz		—	15	
Current Consumption (Noload/ 2.8<Vcc≤3.63)	Icc	0.5≤fo<5MHz		—	5.8	
		5≤fo<15MHz		—	6.5	
		15≤fo<30MHz		—	7.3	
		30≤fo<50MHz		—	8	
		50≤fo≤60MHz		—	8.5	
		60<fo<75MHz		—	12.5	
		75≤fo<105MHz		—	14.5	
		105≤fo<130MHz		—	15.5	
		130≤fo<160MHz		—	18	
		160≤fo≤170MHz		—	19.5	
Stand-by Current	$I_{\_std}$			—	5	μA
Symmetry	SYM	@50% Vcc		45	55	%
Rise/ Fall Time (20% to 80% Output Level)	Tr/ Tf	0.5≤fo≤60MHz	Loaded/ 1.71≤Vcc≤2.25	—	4	ns
			Loaded/ 2.25<Vcc≤2.8	—	3	
			Loaded/ 2.8<Vcc≤3.63	—	2.5	
		60<fo≤170MHz	Loaded/ 1.71≤Vcc≤2.25	—	1.5	
			Loaded/ 2.25<Vcc≤2.8	—	1.3	
			Loaded/ 2.8<Vcc≤3.63	—	1	
Low Level Output Voltage	VOL	IOL = 4mA		—	10% Vcc	V
High Level Output Voltage	VOH	IOH = −4mA		90% Vcc	—	V
Output Load (CMOS)	L_CMOS			—	15	pF
Low Level Input Voltage	VIL			—	30% Vcc	V
High Level Input Voltage	VIH			70% Vcc	—	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.

As of December 2019

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



RoHS Compliant

Features

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

Applications

- Consumer/ Networking/ Industrial/ Amuse

Table 2

Freq. Tol. Code	Freq. Tol. × 10^{-6}	Operating Temperature Range (°C)	Note
C	± 5	−40 to +85	For additional stabillity, please contact us.
N	± 15	−40 to +105	

How to Order

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

①Series

KC2016Z	2016 Size	KC2520Z	2520 Size
KC3225Z	3225 Size	KC5032Z	5032 Size
KC7050Z	7050 Size		

②Output Frequency (25.0000 : 25MHz)
③Output Type (C : CMOS)
④Supply Voltage

1	1.8V	2	2.5V
3	3.3V		

⑤Frequency Tolerance (See Table 2)
⑥Symmetry/ INH Function

Z	STD 45/ 55%

⑦Individual Specification
(STD Specification is "00".)

Packaging Tape&Reel

KC7050Z/ KC5032Z	1000 pcs./ reel
KC3225Z/ KC2520Z/ KC2016Z	2000 pcs./ reel

Specifications

Item	Symbol	Conditions		Min.	Max.	Unit
Output Frequency Range	fo			0.5	170	MHz
Frequency Tolerance	$f_{\_tol}$	Initial tolerance, Operating temperature range			See Table 2	
Storage Temperature Range	$T_{\_stg}$			−55	150	°C
Operating Temperature Range	$T_{\_use}$				See Table 2	
Max. Supply Voltage	—			−0.3	4.5	V
Supply Voltage	Vcc	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≤Vcc≤2.25)	Icc	0.5≤fo<5MHz		—	5.2	mA
		5≤fo<15MHz		—	5.8	
		15≤fo<30MHz		—	6.2	
		30≤fo<50MHz		—	6.8	
		50≤fo≤60MHz		—	6.8	
		60<fo<75MHz		—	9	
		75≤fo<105MHz		—	10	
		105≤fo<130MHz		—	10.5	
		130≤fo<160MHz		—	11.5	
		160≤fo≤170MHz		—	12.5	
Current Consumption (Noload/ 2.25<Vcc≤2.8)	Icc	0.5≤fo<5MHz		—	5.5	
		5≤fo<15MHz		—	6	
		15≤fo<30MHz		—	6.5	
		30≤fo<50MHz		—	7.2	
		50≤fo≤60MHz		—	7.4	
		60<fo<75MHz		—	10	
		75≤fo<105MHz		—	11.5	
		105≤fo<130MHz		—	12.5	
		130≤fo<160MHz		—	14	
		160≤fo≤170MHz		—	15	
Current Consumption (Noload/ 2.8<Vcc≤3.63)	Icc	0.5≤fo<5MHz		—	5.8	
		5≤fo<15MHz		—	6.5	
		15≤fo<30MHz		—	7.3	
		30≤fo<50MHz		—	8	
		50≤fo≤60MHz		—	8.5	
		60<fo<75MHz		—	12.5	
		75≤fo<105MHz		—	14.5	
		105≤fo<130MHz		—	15.5	
		130≤fo<160MHz		—	18	
		160≤fo≤170MHz		—	19.5	
Stand-by Current	$I_{\_std}$			—	5	μA
Symmetry	SYM	@50% Vcc		45	55	%
Rise/ Fall Time (20% to 80% Output Level)	Tr/ Tf	0.5≤fo≤60MHz	Loaded/ 1.71≤Vcc≤2.25	—	4	ns
			Loaded/ 2.25<Vcc≤2.8	—	3	
			Loaded/ 2.8<Vcc≤3.63	—	2.5	
		60<fo≤170MHz	Loaded/ 1.71≤Vcc≤2.25	—	1.5	
			Loaded/ 2.25<Vcc≤2.8	—	1.3	
			Loaded/ 2.8<Vcc≤3.63	—	1	
Low Level Output Voltage	VOL	IOL = 4mA		—	10% Vcc	V
High Level Output Voltage	VOH	IOH = −4mA		90% Vcc	—	V
Output Load (CMOS)	L_CMOS			—	15	pF
Low Level Input Voltage	VIL			—	30% Vcc	V
High Level Input Voltage	VIH			70% Vcc	—	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.