



RoHS Compliant

Features

- Miniature ceramic package
- Highly reliable with seam welding
- LVDS output
- Supply voltage $V_{CC}=2.5V$
- $\pm 25 \times 10^{-6}$ available

Table 1

Freq. Tol. Code	Tol. $\times 10^{-6}$	Operating Temperature Range (°C)	Note
0	± 50	0 to +70	Standard specifications
S	± 30		
U	± 25		
F	± 100	-40 to +85	With only certain frequencies
G	± 50		

How to Order

KC5032P 125.000 L 2 0 E 00
 ① ② ③ ④ ⑤ ⑥ ⑦

- ① Type (5.0×3.2mm SMD)
- ② Output Frequency
- ③ Output Type (LVDS)
- ④ Supply Voltage (2.5V)
- ⑤ Frequency Tolerance (See Table 1)
- ⑥ Symmetry/ INH Function (45/ 55%, Stand-by)
- ⑦ Customer Special Model Suffix (STD Specification is "00")

Packaging (Tape & Reel 1000 pcs./ reel)

Specifications

Item	Symbol	Conditions	Min.	Max.	Units	
Output Frequency Range ^{Note1}	f_o		50	190	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	Op. Temp.: -40 to +85°C	-100	+100	$\times 10^{-6}$
			Op. Temp.: 0 to +70°C/ -40 to +85°C	-50	+50	
			Op. Temp.: 0 to +70°C	-30	+30	
			Op. Temp.: 0 to +70°C	-25	+25	
Storage Temperature Range	T_{stg}		-55	+125	°C	
Operating Temperature Range	T_{use}	Standard Specifications	0	+70	°C	
		Extend (Option)	-40	+85		
Max. Supply Voltage	—		-0.5	+5	V	
Supply Voltage	V_{CC}		2.375	2.625	V	
Current Consumption	I_{CC}		—	70	mA	
Stand-by Current	I_{std}		—	30	μA	
Symmetry	SYM	100ohm @crossing point	45	55	%	
Rise/ Fall Time (20% to 80% Output Level)	t_r/ t_f	100ohm	—	0.6	ns	
Low Level Output Voltage ^{Note2}	V_{OL}	Typ. 1.1V	0.9	—	V	
High Level Output Voltage ^{Note2}	V_{OH}	Typ. 1.43V	—	1.6	V	
Differential Output Voltage ^{Note2}	V_{OD}	Typ. 330mV	247	454	mV	
Differential Output Voltage Error ^{Note2}	dV_{OD}	$dV_{OD}= V_{OD1}-V_{OD2} $	—	50	mV	
Offset Voltage	V_{OS}	Typ. 1.25V	1.125	1.375	V	
Offset Voltage Error	dV_{OS}	$dV_{OS}= V_{OS1}-V_{OS2} $	—	50	mV	
Output Load	RL	LVDS Output	100		ohm	
Input Voltage Range	V_{IN}		0	V_{CC}	V	
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}		—	10	ms	
Start-up Time	t_{str}	@Minimum operating voltage to be 0 sec.	—	10	ms	
Deterministic Jitter (DJ)	DJ	Measured with Wavecrest DTS-2079 VIS/ 6.3.1	—	2	ps	
1 Sigma Jitter	J _{Sigma}		—	4	ps	
Peak to Peak Jitter	J _{PK-PK}		—	30	ps	

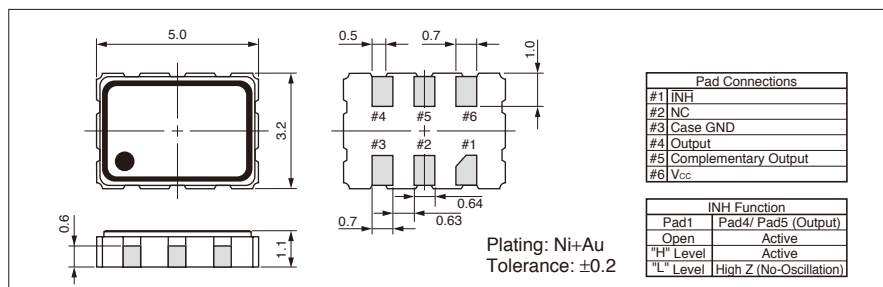
Note : All electrical characteristics are defined at the maximum load and operating temperature range.

Note1: Please contact us for inquiry about operating temperature range, available frequencies and other conditions.

Note2: DC characteristic

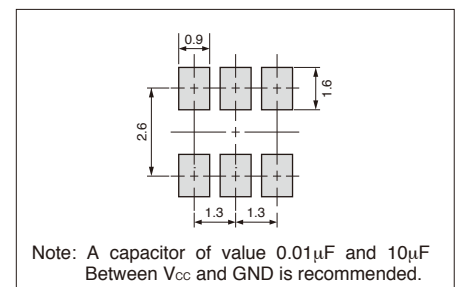
Dimensions

(Unit: mm)



Recommended Land Pattern

(Unit: mm)





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- Miniature ceramic package
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- LVDS output
- Supply voltage $V_{CC}=3.3V$
- $\pm 25 \times 10^{-6}$ available

Table 1

Freq. Tol. Code	Tol. $\times 10^{-6}$	Operating Temperature Range (°C)	Note
0	± 50	0 to +70	Standard specifications
S	± 30		
U	± 25		
F	± 100	-40 to +85	With only certain frequencies
G	± 50		

How to Order

KC5032P 125.000 L 3 0 E 00
① ② ③ ④ ⑤ ⑥ ⑦

- ① Type (5.0x3.2mm SMD)
- ② Output Frequency
- ③ Output Type (LVDS)
- ④ Supply Voltage (3.3V)
- ⑤ Frequency Tolerance (See Table 1)
- ⑥ Symmetry/ INH Function (45/ 55%, Stand-by)
- ⑦ Customer Special Model Suffix (STD Specification is "00")

Packaging (Tape & Reel 1000 pcs./ reel)

Specifications

Item	Symbol	Conditions	Min.	Max.	Units	
Output Frequency Range ^{Note1}	f_o		50	190	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	Op. Temp.: -40 to +85°C	-100	+100	$\times 10^{-6}$
			Op. Temp.: 0 to +70°C/ -40 to +85°C	-50	+50	
			Op. Temp.: 0 to +70°C	-30	+30	
			Op. Temp.: 0 to +70°C	-25	+25	
Storage Temperature Range	T_{stg}		-55	+125	°C	
Operating Temperature Range	T_{use}	Standard Specifications	0	+70	°C	
		Extend (Option)	-40	+85		
Max. Supply Voltage	—		-0.5	+5	V	
Supply Voltage	V_{CC}	Freq. Tol.Code: 0, S, F	2.97	3.63	V	
		Freq. Tol.Code: U, G	3.14	3.46		
Current Consumption	I_{CC}		—	70	mA	
Stand-by Current	I_{std}		—	30	μA	
Symmetry	SYM	100ohm @crossing point	45	55	%	
Rise/ Fall Time (20% to 80% Output Level)	t_r/ t_f	100ohm	—	0.6	ns	
Low Level Output Voltage ^{Note2}	V_{OL}	Typ. 1.1V	0.9	—	V	
High Level Output Voltage ^{Note2}	V_{OH}	Typ. 1.43V	—	1.6	V	
Differential Output Voltage ^{Note2}	V_{OD}	Typ. 330mV	247	454	mV	
Differential Output Voltage Error ^{Note2}	dV_{OD}	$dV_{OD}= V_{OD1}-V_{OD2} $	—	50	mV	
Offset Voltage	V_{OS}	Typ. 1.25V	1.125	1.375	V	
Offset Voltage Error	dV_{OS}	$dV_{OS}= V_{OS1}-V_{OS2} $	—	50	mV	
Output Load	R_L	LVDS Output	100		ohm	
Input Voltage Range	V_{IN}		0	V_{CC}	V	
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}		—	10	ms	
Start-up Time	t_{str}	@Minimum operating voltage to be 0 sec.	—	10	ms	
Deterministic Jitter (DJ)	DJ	Measured with Wavecrest DTS-2079 VIS/ 6.3.1	—	2	ps	
1 Sigma Jitter	J_{Sigma}		—	4	ps	
Peak to Peak Jitter	J_{PK-PK}		—	30	ps	

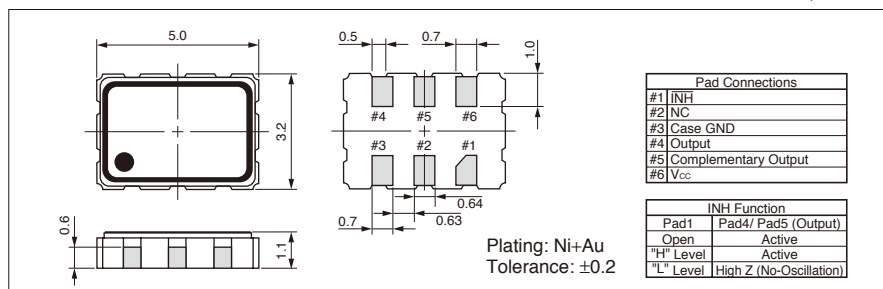
Note : All electrical characteristics are defined at the maximum load and operating temperature range.

Note1: Please contact us for inquiry about operating temperature range, available frequencies and other conditions.

Note2: DC characteristic

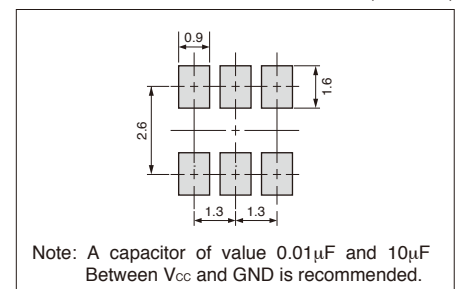
Dimensions

(Unit: mm)



Recommended Land Pattern

(Unit: mm)





RoHS Compliant

Features

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- Highly reliable with seam welding
- LVDS output
- Supply voltage $V_{CC}=2.5V$
- $\pm 25 \times 10^{-6}$ available

Table 1

Freq. Tol. Code	Tol. $\times 10^{-6}$	Operating Temperature Range (°C)	Note
0	± 50	0 to +70	Standard specifications
S	± 30		
U	± 25		
F	± 100	-40 to +85	With only certain frequencies
G	± 50		

How to Order

KC7050P 125.000 L 2 0 E 00
 ① ② ③ ④ ⑤ ⑥ ⑦

- ① Type (7.0x5.0mm SMD)
- ② Output Frequency
- ③ Output Type (LVDS)
- ④ Supply Voltage (2.5V)
- ⑤ Frequency Tolerance (See Table 1)
- ⑥ Symmetry/ INH Function (45/ 55%, Stand-by)
- ⑦ Customer Special Model Suffix (STD Specification is "00")

Packaging (Tape & Reel 1000 pcs./ reel)

Specifications

Item	Symbol	Conditions	Min.	Max.	Units	
Output Frequency Range ^{Note1}	f_o		50	190	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	Op. Temp.: -40 to +85°C	-100	+100	$\times 10^{-6}$
			Op. Temp.: 0 to +70°C/ -40 to +85°C	-50	+50	
			Op. Temp.: 0 to +70°C	-30	+30	
			Op. Temp.: 0 to +70°C	-25	+25	
Storage Temperature Range	T_{stg}		-55	+125	°C	
Operating Temperature Range	T_{use}	Standard Specifications	0	+70	°C	
		Extend (Option)	-40	+85		
Max. Supply Voltage	—		-0.5	+5	V	
Supply Voltage	V_{CC}		2.375	2.625	V	
Current Consumption	I_{CC}		—	70	mA	
Stand-by Current	I_{std}		—	30	μA	
Symmetry	SYM	100ohm @crossing point	45	55	%	
Rise/ Fall Time (20% to 80% Output Level)	t_r/ t_f	100ohm	—	0.6	ns	
Low Level Output Voltage ^{Note2}	V_{OL}	Typ. 1.1V	0.9	—	V	
High Level Output Voltage ^{Note2}	V_{OH}	Typ. 1.43V	—	1.6	V	
Differential Output Voltage ^{Note2}	V_{OD}	Typ. 330mV	247	454	mV	
Differential Output Voltage Error ^{Note2}	dV_{OD}	$dV_{OD}= V_{OD1}-V_{OD2} $	—	50	mV	
Offset Voltage	V_{OS}	Typ. 1.25V	1.125	1.375	V	
Offset Voltage Error	dV_{OS}	$dV_{OS}= V_{OS1}-V_{OS2} $	—	50	mV	
Output Load	RL	LVDS Output	100		ohm	
Input Voltage Range	V_{IN}		0	V_{CC}	V	
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}		—	10	ms	
Start-up Time	t_{str}	@Minimum operating voltage to be 0 sec.	—	10	ms	
Deterministic Jitter (DJ)	DJ		—	2	ps	
1 Sigma Jitter	J σ	Measured with Wavecrest DTS-2079 VIS/ 6.3.1	—	4	ps	
Peak to Peak Jitter	J $PK-PK$		—	30	ps	

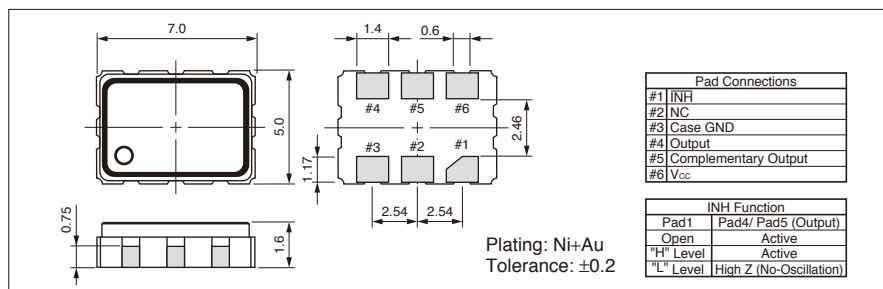
Note : All electrical characteristics are defined at the maximum load and operating temperature range.

Note1: Please contact us for inquiry about operating temperature range, available frequencies and other conditions.

Note2: DC characteristic

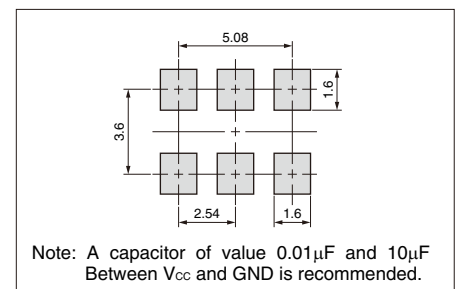
Dimensions

(Unit: mm)



Recommended Land Pattern

(Unit: mm)





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Features

- Miniature ceramic package
- Highly reliable with seam welding
- LVDS output
- Supply voltage $V_{CC}=3.3V$
- $\pm 25 \times 10^{-6}$ available

Table 1

Freq. Tol. Code	Tolerance $\times 10^{-6}$	Operating Temperature Range (°C)	Note
0	± 50	0 to +70	Standard specifications
S	± 30		
U	± 25		
F	± 100	-40 to +85	With only certain frequencies
G	± 50		

How to Order

KC7050P 125.000 L 3 0 E 00
 ① ② ③ ④ ⑤ ⑥ ⑦

- ① Type (7.0x5.0mm SMD)
- ② Output Frequency
- ③ Output Type (LVDS)
- ④ Supply Voltage (3.3V)
- ⑤ Frequency Tolerance (See Table 1)
- ⑥ Symmetry/ INH Function (45/ 55%, Stand-by)
- ⑦ Customer Special Model Suffix (STD Specification is "00")

Packaging (Tape & Reel 1000 pcs./ reel)

Specifications

Item	Symbol	Conditions	Min.	Max.	Units	
Output Frequency Range ^{Note1}	f_o		50	190	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	Op. Temp.: -40 to +85°C	-100	+100	$\times 10^{-6}$
			Op. Temp.: 0 to +70°C/ -40 to +85°C	-50	+50	
			Op. Temp.: 0 to +70°C	-30	+30	
			Op. Temp.: 0 to +70°C	-25	+25	
Storage Temperature Range	T_{stg}		-55	+125	°C	
Operating Temperature Range	T_{use}	Standard Specifications	0	+70	°C	
		Extend (Option)	-40	+85		
Max. Supply Voltage	—		-0.5	+5	V	
Supply Voltage	V_{CC}	Freq. Tol.Code: 0, S, F	2.97	3.63	V	
		Freq. Tol.Code: U, G	3.14	3.46		
Current Consumption	I_{CC}		—	70	mA	
Stand-by Current	I_{std}		—	30	μA	
Symmetry	SYM	100ohm @crossing point	45	55	%	
Rise/ Fall Time (20% to 80% Output Level)	tr/ tf	100ohm	—	0.6	ns	
Low Level Output Voltage ^{Note2}	V_{OL}	Typ. 1.1V	0.9	—	V	
High Level Output Voltage ^{Note2}	V_{OH}	Typ. 1.43V	—	1.6	V	
Differential Output Voltage ^{Note2}	V_{OD}	Typ. 330mV	247	454	mV	
Differential Output Voltage Error ^{Note2}	dV_{OD}	$dV_{OD}= V_{OD1}-V_{OD2} $	—	50	mV	
Offset Voltage	V_{OS}	Typ. 1.25V	1.125	1.375	V	
Offset Voltage Error	dV_{OS}	$dV_{OS}= V_{OS1}-V_{OS2} $	—	50	mV	
Output Load	RL	LVDS Output	100		ohm	
Input Voltage Range	V_{IN}		0	V_{CC}	V	
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}		—	10	ms	
Start-up Time	t_{str}	@Minimum operating voltage to be 0 sec.	—	10	ms	
Deterministic Jitter (DJ)	DJ	Measured with Wavecrest DTS-2079 VISI 6.3.1	—	2	ps	
1 Sigma Jitter	JSigma		—	4	ps	
Peak to Peak Jitter	JPK-PK		—	30	ps	

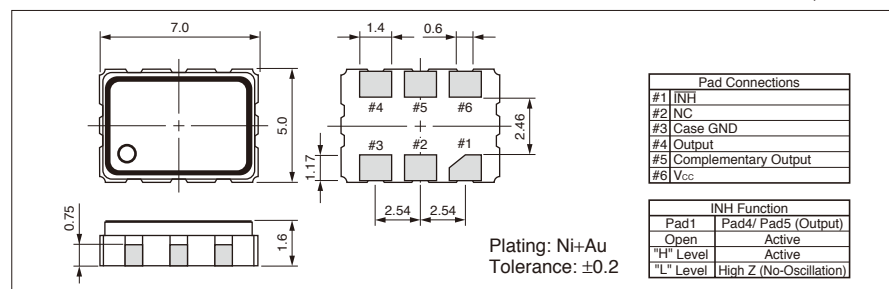
Note : All electrical characteristics are defined at the maximum load and operating temperature range.

Note1: Please contact us for inquiry about operating temperature range, available frequencies and other conditions.

Note2: DC characteristic

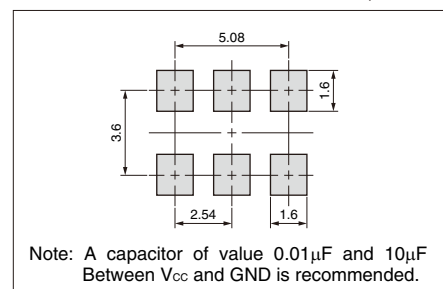
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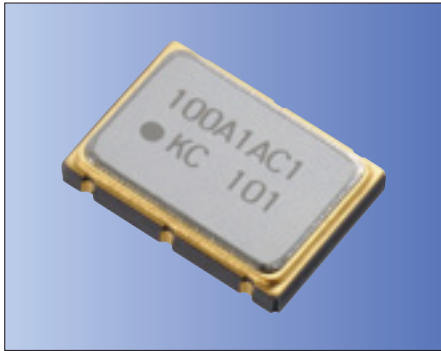
(Unit: mm)



Recommended Land Pattern

(Unit: mm)





RoHS Compliant

Features

- Low Voltage 2.5V
- Excellent Jitter performance
- LVDS output
- Operation at Fundamental high frequency
- $\pm 50 \times 10^{-6}$ available

Table 1

Freq. Tol. Code	Freq. Tol. $\times 10^{-6}$	Operating Temperature Range (°C)	Note
1	± 100	0 to +70	Standard specifications
0	± 50		With only certain frequencies
A	± 100	-5 to +85	

How to Order

KC7050Y 312.500 L 2 1 E 00
① ② ③ ④ ⑤ ⑥ ⑦

- ① Type (7.0x5.0mm SMD)
- ② Output Frequency
- ③ Output Type (LVDS)
- ④ Supply Voltage (2.5V)
- ⑤ Frequency Tolerance (See Table 1)
- ⑥ Symmetry/ INH Function (45/ 55%, Stand-by)
- ⑦ Customer Special Model Suffix (STD Specification is "00")

Packaging (Tape & Reel 1000 pcs./ reel)

Specifications

Item	Symbol	Conditions	Min.	Max.	Units	
Output Frequency Range ^{Note1}	fo		75	700	MHz	
Frequency Tolerance ^{Note2}	f _{tol}	Initial tolerance, Operating temperature range, Rated power supply voltage change, Aging (1 year @25°C), Shock and vibration	Op. Temp.: 0 to +70°C	-50	+50	$\times 10^{-6}$
			Op. Temp.: 0 to +70°C	-100	+100	
			Op. Temp.: -5 to +85°C	-100	+100	
Storage Temperature Range	T _{stg}		-55	+125	°C	
Operating Temperature Range	T _{use}	Standard Specifications	0	+70	°C	
Max. Supply Voltage	—		-0.3	+5	V	
Supply Voltage	V _{cc}	2.5V	2.38	2.63	V	
Current Consumption (Standard Loaded)	I _{cc}		—	70	mA	
Symmetry	SYM	100ohm @crossing point	45	55	%	
Rise/ Fall Time (20% to 80% Output Level Standard Loaded)	tr/ tf	100ohm	—	400	ps	
Low Level Output Voltage ^{Note3}	V _{OL}	Typ. 1.1V	0.9	—	V	
High Level Output Voltage ^{Note3}	V _{OH}	Typ. 1.43V	—	1.6	V	
Differential Output Voltage ^{Note3}	V _{OD}	Typ. 330mV	247	454	mV	
Differential Output Voltage Error ^{Note3}	dV _{OD}	dV _{OD} = V _{OD1} -V _{OD2}	—	50	mV	
Offset Voltage	V _{OS}	Typ. 1.25V	1.125	1.375	V	
Offset Voltage Error	dV _{OS}	dV _{OS} = V _{OS1} -V _{OS2}	—	50	mV	
Output Load	RL	LVDS Output	100		ohm	
Input Voltage Range	V _{IN}		0	V _{cc}	V	
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}		—	10	ms	
Start-up Time	t _{str}	@Minimum operating voltage to be 0 sec.	—	10	ms	
Deterministic Jitter (DJ)	DJ	Measured with Wavecrest DTS-2079 V/S/ 6.3.1	0.2 typ.		ps	
1 Sigma Jitter	J _{Sigma}		2 typ.		ps	
Peak to Peak Jitter	J _{PK-PK}		20 typ.		ps	

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

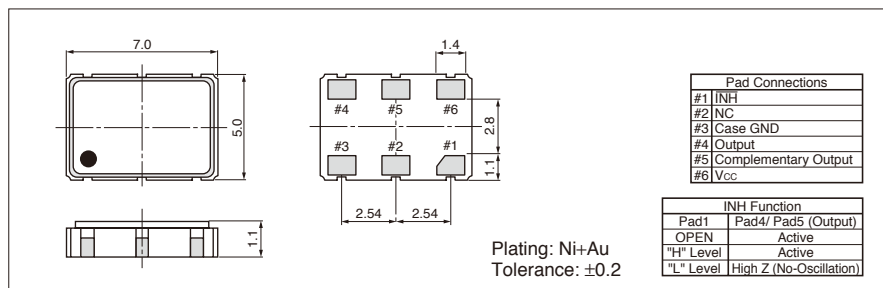
Note1: Please contact us for inquiry about operating temperature range, available frequencies and other conditions.

Note2: Aging (10 years @25°C) specification is available.

Note3: DC characteristic

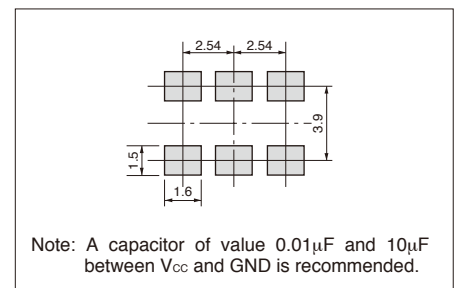
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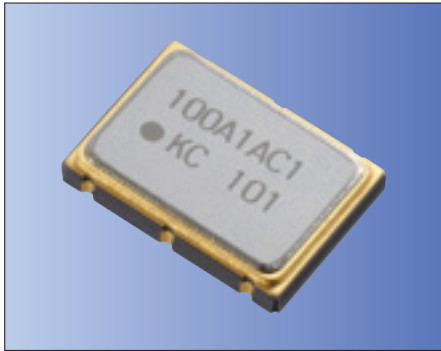
(Unit: mm)



Recommended Land Pattern

(Unit: mm)





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Freq. Tol. Code	Freq. Tol. $\times 10^{-6}$	Operating Temperature Range (°C)	Note
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- ② Output Frequency
- ③ Output Type (LVDS)
- ④ Supply Voltage (3.3V)
- ⑤ Frequency Tolerance (See Table 1)
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Packaging (Tape & Reel 1000 pcs./ reel)

Specifications

Item	Symbol	Conditions	Min.	Max.	Units	
Output Frequency Range ^{Note1}	f _o		75	700	MHz	
Frequency Tolerance ^{Note2}	f _{tol}	Initial tolerance, Operating temperature range, Rated power supply voltage change, Aging (1 year @25°C), Shock and vibration	Op. Temp.: 0 to +70°C	-50	+50	$\times 10^{-6}$
			Op. Temp.: 0 to +70°C	-100	+100	
			Op. Temp.: -5 to +85°C	-100	+100	
Storage Temperature Range	T _{stg}		-55	+125	°C	
Operating Temperature Range	T _{use}	Standard Specifications	0	+70	°C	
Max. Supply Voltage	—		-0.3	+5	V	
Supply Voltage	V _{cc}	3.3V	3.14	3.46	V	
Current Consumption (Standard Loaded)	I _{cc}		—	70	mA	
Symmetry	SYM	100ohm @crossing point	45	55	%	
Rise/ Fall Time (20% to 80% Output Level Standard Loaded)	tr/ tf	100ohm	—	400	ps	
Low Level Output Voltage ^{Note3}	V _{oL}	Typ. 1.1V	0.9	—	V	
High Level Output Voltage ^{Note3}	V _{oH}	Typ. 1.43V	—	1.6	V	
Differential Output Voltage ^{Note3}	V _{oD}	Typ. 330mV	247	454	mV	
Differential Output Voltage Error ^{Note3}	dV _{oD}	dV _{oD} = V _{oD1} -V _{oD2}	—	50	mV	
Offset Voltage	V _{os}	Typ. 1.25V	1.125	1.375	V	
Offset Voltage Error	dV _{os}	dV _{os} = V _{os1} -V _{os2}	—	50	mV	
Output Load	RL	LVDS Output	100		ohm	
Input Voltage Range	V _{in}		0	V _{cc}	V	
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}		—	10	ms	
Start-up Time	t _{str}	@Minimum operating voltage to be 0 sec.	—	10	ms	
Deterministic Jitter (DJ)	DJ	Measured with Wavecrest DTS-2079 V/S/ 6.3.1	0.2 typ.		ps	
1 Sigma Jitter	J _{Sigma}		2 typ.		ps	
Peak to Peak Jitter	J _{PK-PK}		20 typ.		ps	

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

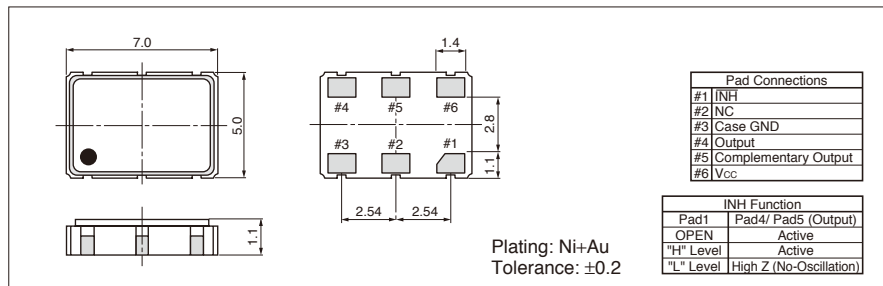
Note1: Please contact us for inquiry about operating temperature range, available frequencies and other conditions.

Note2: Aging (10 years @25°C) specification is available.

Note3: DC characteristic

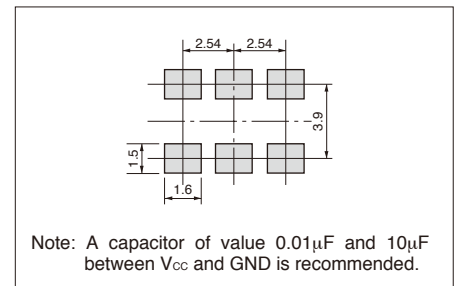
Dimensions

(Unit: mm)



Recommended Land Pattern

(Unit: mm)





RoHS Compliant

Features

- Low Voltage 2.5V
- Excellent Jitter performance
- LVDS output
- Operation at Fundamental high frequency
- $\pm 50 \times 10^{-6}$ available

Table 1

Freq. Tol. Code	Tol. $\times 10^{-6}$	Operating Temperature Range (°C)	Note
1	± 100	0 to +70	Standard specifications
0	± 50		With only certain frequencies
A	± 100	-5 to +85	

How to Order

KC7050T 312.500 L 2 1 E 00
① ② ③ ④ ⑤ ⑥ ⑦

- ① Type (7.0x5.0mm SMD)
- ② Output Frequency
- ③ Output Type (LVDS)
- ④ Supply Voltage (2.5V)
- ⑤ Frequency Tolerance (See Table 1)
- ⑥ Symmetry/ INH Function (45/ 55%, Stand-by)
- ⑦ Customer Special Model Suffix (STD Specification is "00")

Packaging (Tape & Reel 1000 pcs./ reel)

Specifications

Item	Symbol	Conditions	Min.	Max.	Units	
Output Frequency Range ^{Note1}	fo		150	700	MHz	
Frequency Tolerance ^{Note2}	f _{tol}	Initial tolerance, Operating temperature range, Rated power supply voltage change, Aging (1 year @25°C), Shock and vibration	Op. Temp.: 0 to +70°C	-50	+50	$\times 10^{-6}$
			Op. Temp.: 0 to +70°C	-100	+100	
			Op. Temp.: -5 to +85°C	-100	+100	
Storage Temperature Range	T _{stg}		-55	+125	°C	
Operating Temperature Range	T _{use}	Standard Specifications	0	+70	°C	
Max. Supply Voltage	—		-0.5	+5	V	
Supply Voltage	V _{cc}	2.5V	2.38	2.63	V	
Current Consumption (Standard Loaded)	I _{cc}		—	70	mA	
Symmetry	SYM	100ohm @crossing point	45	55	%	
Rise/ Fall Time (20% to 80% Output Level Standard Loaded)	tr/ tf	100ohm	—	600	ps	
Low Level Output Voltage ^{Note3}	V _{OL}	Typ. 1.1V	0.9	—	V	
High Level Output Voltage ^{Note3}	V _{OH}	Typ. 1.43V	—	1.6	V	
Differential Output Voltage ^{Note3}	V _{OD}	Typ. 330mV	247	454	mV	
Differential Output Voltage Error ^{Note3}	dV _{OD}	dV _{OD} = V _{OD1} -V _{OD2}	—	50	mV	
Offset Voltage	V _{OS}	Typ. 1.25V	1.125	1.375	V	
Offset Voltage Error	dV _{OS}	dV _{OS} = V _{OS1} -V _{OS2}	—	50	mV	
Output Load	RL	LVDS Output	100		ohm	
Input Voltage Range	V _{IN}		0	V _{cc}	V	
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}		—	10	ms	
Start-up Time	t _{str}	@Minimum operating voltage to be 0 sec.	—	10	ms	
Deterministic Jitter (DJ)	DJ	Measured with Wavecrest DTS-2079 V/S/ 6.3.1	0.2 typ.		ps	
1 Sigma Jitter	J _{Sigma}		2 typ.		ps	
Peak to Peak Jitter	J _{PK-PK}		20 typ.		ps	

Note : All electrical characteristics are defined at the standard load and operating temperature range.

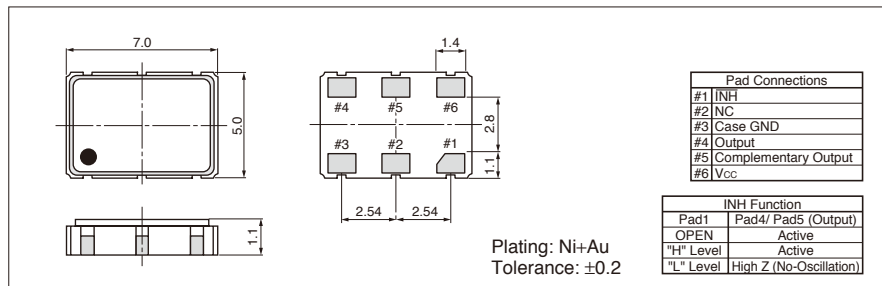
Note1: Please contact us for inquiry about operating temperature range, available frequencies and other conditions.

Note2: Aging (10 years @25°C) specification is available.

Note3: DC characteristic

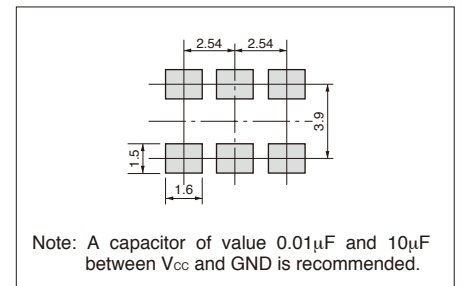
Dimensions

(Unit: mm)



Recommended Land Pattern

(Unit: mm)





RoHS Compliant

Features

- Low Voltage 3.3V
- Excellent Jitter performance
- LVDS output
- Operation at Fundamental high frequency
- $\pm 50 \times 10^{-6}$ available

Table 1

Freq. Tol. Code	Freq. Tol. $\times 10^{-6}$	Operating Temperature Range (°C)	Note
1	± 100	0 to +70	Standard specifications
0	± 50		With only certain frequencies
A	± 100	-5 to +85	

How to Order

KC7050T 312.500 L 3 1 E 00
① ② ③ ④ ⑤ ⑥ ⑦

- ① Type (7.0x5.0mm SMD)
- ② Output Frequency
- ③ Output Type (LVDS)
- ④ Supply Voltage (3.3V)
- ⑤ Frequency Tolerance (See Table 1)
- ⑥ Symmetry/ INH Function (45/ 55%, Stand-by)
- ⑦ Customer Special Model Suffix (STD Specification is "00")

Packaging (Tape & Reel 1000 pcs./ reel)

Specifications

Item	Symbol	Conditions	Min.	Max.	Units	
Output Frequency Range ^{Note1}	fo		150	700	MHz	
Frequency Tolerance ^{Note2}	f _{tol}	Initial tolerance, Operating temperature range, Rated power supply voltage change, Aging (1 year @25°C), Shock and vibration	Op. Temp.: 0 to +70°C	-50	+50	$\times 10^{-6}$
			Op. Temp.: 0 to +70°C	-100	+100	
			Op. Temp.: -5 to +85°C	-100	+100	
Storage Temperature Range	T _{stg}		-55	+125	°C	
Operating Temperature Range	T _{use}	Standard Specifications	0	+70	°C	
Max. Supply Voltage	—		-0.5	+5	V	
Supply Voltage	V _{cc}	3.3V	3.14	3.46	V	
Current Consumption (Standard Loaded)	I _{cc}		—	70	mA	
Symmetry	SYM	100ohm @crossing point	45	55	%	
Rise/ Fall Time (20% to 80% Output Level Standard Loaded)	tr/ tf	100ohm	—	600	ps	
Low Level Output Voltage ^{Note3}	V _{oL}	Typ. 1.1V	0.9	—	V	
High Level Output Voltage ^{Note3}	V _{oH}	Typ. 1.43V	—	1.6	V	
Diffrential Output Voltage ^{Note3}	V _{oD}	Typ. 330mV	247	454	mV	
Diffrential Output Voltage Error ^{Note3}	dV _{oD}	dV _{oD} = V _{oD1} -V _{oD2}	—	50	mV	
Offset Voltage	V _{os}	Typ. 1.25V	1.125	1.375	V	
Offset Voltage Error	dV _{os}	dV _{os} = V _{os1} -V _{os2}	—	50	mV	
Output Load	RL	LVDS Output	100		ohm	
Input Voltage Range	V _{IN}		0	V _{cc}	V	
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}		—	10	ms	
Start-up Time	t _{str}	@Minimum operating voltage to be 0 sec.	—	10	ms	
Deterministic Jitter (DJ)	DJ	Measured with Wavecrest DTS-2079 V/S/ 6.3.1	0.2 typ.		ps	
1 Sigma Jitter	J _{Sigma}		2 typ.		ps	
Peak to Peak Jitter	J _{PK-PK}		20 typ.		ps	

Note : All electrical characteristics are defined at the standard load and operating temperature range.

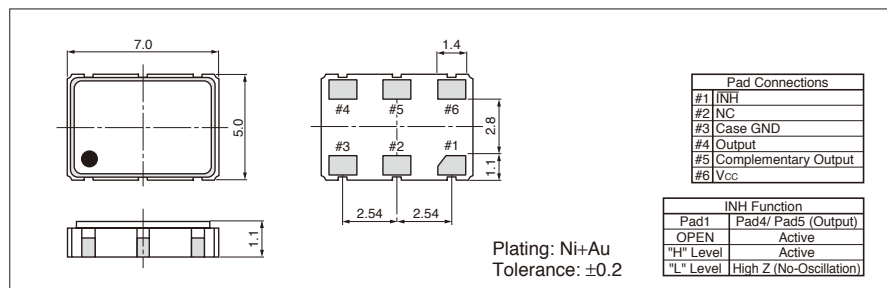
Note1: Please contact us for inquiry about operating temperature range, available frequencies and other conditions.

Note2: Aging (10 years @25°C) specification is available.

Note3: DC characteristic

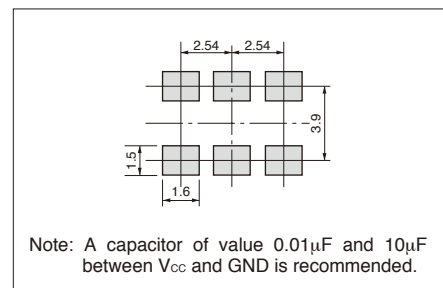
Dimensions

(Unit: mm)



Recommended Land Pattern

(Unit: mm)





RoHS Compliant

Specifications

Type	Output Frequency Range (MHz)	Supply Voltage (Vcc)	Frequency Tolerance × 10 ⁻⁶	Current Consumption (mA)	Output Load (Ω)
KC7050S-P2	50 to 700	2.5± to 5%	±100	max. 90	50
KC7050S-P3	50 to 700	3.3± to 5%		max. 90	
KC7050S-L2	50 to 700	2.5± to 5%		max. 70	100
KC7050S-L3	50 to 700	3.3± to 5%		max. 70	

Note: Please contact us for inquiry about operating temperature range, available frequencies and other conditions.

KC7050S-P2 Series

Features

- Low voltage 2.5V
- Excellent Jitter performance
- LV-PECL output
- Operation at fundamental high frequency

Table 1

Freq. Code	Tol. × 10 ⁻⁶	Operating Temperature Range (°C)	Note
1	±100	0 to +70	Standard specifications

How to Order

KC7050S 312.500 P 2 1 E 00
 ① ② ③ ④ ⑤ ⑥ ⑦

- ① Type (7.0×5.0mm SMD)
- ② Output Frequency
- ③ Output Type (PECL)
- ④ Supply Voltage (2.5V)
- ⑤ Frequency Tolerance (See Table 1)
- ⑥ Symmetry/ INH Function (45/ 55%, Stand-by)
- ⑦ Customer Special Model Suffix (STD Specification is "00")

Packaging (Tape & Reel 1000 pcs./ reel)

KC7050S-P3 Series

Features

- Excellent Jitter performance
- Complementary LV-PECL outputs
- Operation at fundamental high frequency

Table 1

Freq. Code	Tol. × 10 ⁻⁶	Operating Temperature Range (°C)	Note
1	±100	0 to +70	Standard specifications

How to Order

KC7050S 312.500 P 3 1 E 00
 ① ② ③ ④ ⑤ ⑥ ⑦

- ① Type (7.0×5.0mm SMD)
- ② Output Frequency
- ③ Output Type (PECL)
- ④ Supply Voltage (3.3V)
- ⑤ Frequency Tolerance (See Table 1)
- ⑥ Symmetry/ INH Function (45/ 55%, Stand-by)
- ⑦ Customer Special Model Suffix (STD Specification is "00")

Packaging (Tape & Reel 1000 pcs./ reel)

KC7050S-L2 Series

Features

- Low Voltage 2.5V
- Excellent Jitter performance
- LVDS output
- Operation at Fundamental high frequency

Table 1

Freq. Code	Tol. × 10 ⁻⁶	Operating Temperature Range (°C)	Note
1	±100	0 to +70	Standard specifications

How to Order

KC7050S 312.500 L 2 1 E 00
 ① ② ③ ④ ⑤ ⑥ ⑦

- ① Type (7.0×5.0mm SMD)
- ② Output Frequency
- ③ Output Type (LVDS)
- ④ Supply Voltage (2.5V)
- ⑤ Frequency Tolerance (See Table 1)
- ⑥ Symmetry/ INH Function (45/ 55%, Stand-by)
- ⑦ Customer Special Model Suffix (STD Specification is "00")

Packaging (Tape & Reel 1000 pcs./ reel)

KC7050S-L3 Series

Features

- Low Voltage 3.3V
- Excellent Jitter performance
- LVDS output
- Operation at Fundamental high frequency

Table 1

Freq. Code	Tol. × 10 ⁻⁶	Operating Temperature Range (°C)	Note
1	±100	0 to +70	Standard specifications

How to Order

KC7050S 312.500 L 3 1 E 00
 ① ② ③ ④ ⑤ ⑥ ⑦

- ① Type (7.0×5.0mm SMD)
- ② Output Frequency
- ③ Output Type (LVDS)
- ④ Supply Voltage (3.3V)
- ⑤ Frequency Tolerance (See Table 1)
- ⑥ Symmetry/ INH Function (45/ 55%, Stand-by)
- ⑦ Customer Special Model Suffix (STD Specification is "00")

Packaging (Tape & Reel 1000 pcs./ reel)