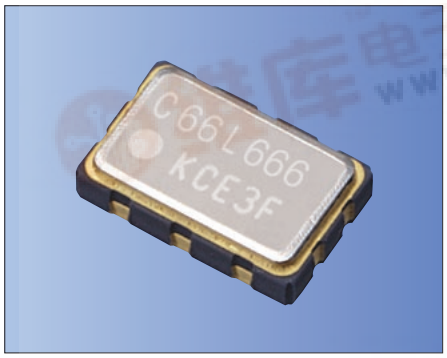
Spread Spectrum Clock Oscillators Surface Mount Type
KC5032E-C3 Series

KYOCERA

CMOS/ 3.3V/ 5.0×3.2mm



Pb Free RoHS Compliant

Features

- Built-in Spread Spectrum function
- Miniature ceramic package
- Highly reliable with seam welding
- CMOS output
- Supply voltage Vcc=3.3V
- External control pad for Modulation Selectable (For initial testing purpose only)

Table 1

Spread Type			
Center Spread		Down Spread	
Code	Spread %	Code	Spread %
C2	±0.5%	D2	–1.0%
C4	±1.0%	D4	–2.0%
C6	±1.5%	D6	–3.0%
C0*	External Control*	D0*	External Control*

* For initial testing purpose only

How to Order

KC5032E 25.0000 C 3 F E C2
① ② ③ ④ ⑤ ⑥ ⑦

① Type (5.0×3.2mm SMD)
② Output Frequency
③ Output Type (CMOS)
④ Supply Voltage (3.3V)
⑤ Frequency Tolerance (±100ppm)
⑥ Symmetry/ Enable Function (45/ 55%, Stand-by)
⑦ Spread Type and Spread Percent or Customer Special Model Suffix (See Table 1)

Packaging (Tape & Reel 1000 pcs./ reel)

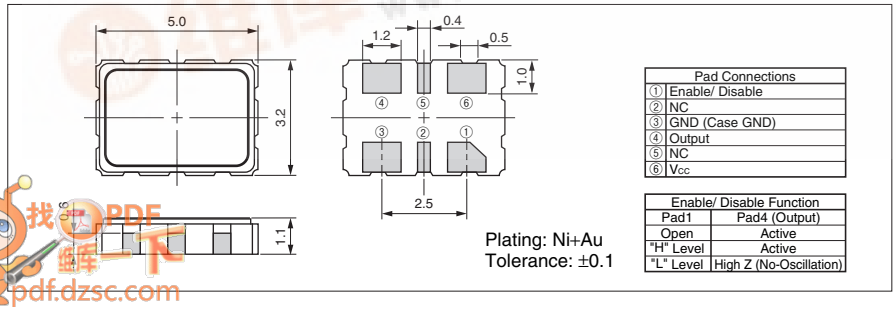
Specifications

Item	Symbol	Conditions		Min.	Max.	Units
Output Frequency Range	fo			14.31818	166	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	×10⁻⁶
Storage Temperature Range	T_stg			–55	+125	°C
Operating Temperature Range	T_use			–40	+85	°C
Max. Supply Voltage	—			–0.5	+4.6	V
Supply Voltage	Vcc			2.97	3.63	V
Current Consumption (Maximum Loaded)	Icc	fo≤40MHz		—	20	mA
		40<fo≤100MHz		—	25	
		100<fo≤166MHz		—	35	
Stand-by Current	I_std			—	30	µA
Symmetry	SYM	@50% Vcc		45	55	%
Rise/ Fall Time (10% Vcc to 90% Vcc Maximum Loaded)	tr/ tf	14.31818≤fo≤40MHz		—	10	nS
		40<fo≤100MHz		—	5	
		100<fo≤166MHz		—	3	
Low Level Output Voltage	VOL	IOL=13mA (fo<40MHz), IOL=19mA (40≤fo<100MHz) IOL=44mA (100≤fo≤166MHz)		—	10% Vcc	V
High Level Output Voltage	VOH	IOH=–13mA (fo<40MHz), IOH=–19mA (40≤fo<100MHz) IOH=–44mA (100≤fo≤166MHz)		90% Vcc	—	V
CMOS Load	L_CMOS	CMOS Output		—	15	pF
Input Voltage Range	VIN			0	Vcc	V
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			—	10	mS
Start-up Time	t_str	@Minimum operation voltage to be 0 sec.		—	20	mS
Peak to Peak Jitter (Cycle to Cycle Jitter)	JPK-PK	Measured with @50%Vcc 10,000 cyc. min. Lecroy Wavepro 950	14.31818≤fo<40MHz	—	±250	pS
			40≤fo<80MHz	—	±175	
			80≤fo≤166MHz	—	±150	

Note: All electrical characteristics are defined at the maximum load and operating temperature range.
Please contact us for inquiry about operating temperature range, available frequencies and other conditions.

Dimensions

(Unit: mm)



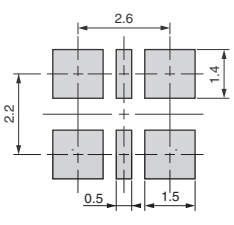
Pad Connections	
①	Enable/ Disable
②	NC
③	GND (Case GND)
④	Output
⑤	NC
⑥	Vcc

Enable/ Disable Function	
Pad1	Pad4 (Output)
Open	Active
"H" Level	Active
"L" Level	High Z (No-Oscillation)

Plating: Ni+Au
Tolerance: ±0.1

Recommended Land Pattern

(Unit: mm)



Note: A capacitor of value 0.01µF between Vcc and GND is recommended.