

• CO23 & CO26 Series

FEATURES

- HCMOS Output
- Tri-State Enable/Disable
- 8 Pin Half Size
- Industry Standard
- Wide Frequency Range
- Resistance Weld Package
- 3.3V Available

The CO23 series oscillator is Half Size, has Tri-state Enable/Disable controlled function. CO26 series is with 3.3V power supply voltage.



ELECTRICAL SPECIFICATIONS

Parameter		Condition	CO23	CO26
Frequency Range	F <sub>0</sub>		1.0 ~ 150.0MHz	
Frequency Stability*		All Condition*	±25ppm, ±50ppm, ±100ppm	
Operating Temperature Range	T <sub>OPR</sub>		0°C ~ 70°C (-40°C ~ +85°C option)	
Storage Temperature Range	T <sub>STG</sub>		-55°C ~ +125°C	
Power Supply Voltage	V <sub>DD</sub>		5.0V +/- 10%	3.3V +/- 10%
Aging (First Year)		25°C ± 3°C	±5ppm	
Supply Current	I <sub>DD</sub>	0.5MHz to 23.999MHz	20mA Max	15mA Max
		24.000MHz to 49.999MHz	30mA Max	20mA Max
		50.000MHz to 69.999MHz	40mA Max	30mA Max
		70.000MHz to 150.000MHz	60mA Max	45mA Max
Output Symmetry	Sym	AT 1/2V <sub>DD</sub>	40/60% (45/55% Option)	
Rise Time	T <sub>r</sub>	10%V <sub>DD</sub> ~ 90%V <sub>DD</sub>	10 nS Max	8 nS Max
Fall Time	T <sub>f</sub>	90%V <sub>DD</sub> ~ 10%V <sub>DD</sub>	10 nS Max	8 nS Max
Output Voltage	V <sub>OH</sub>		90% V <sub>DD</sub> min	
	V <sub>OL</sub>		10% V <sub>DD</sub> max	
Output load	TTL Load		1~10TTL	1~5TTL
	HCMOS Load		~50M:50pF ~70M:30pF ~150M:15pF	~50M:30pF ~150M:15pF
Start-up Time		T <sub>s</sub>	10mS Max	
Pin 1, tri-state function			Pin 1 = H or open... Output active at pin 5 Pin 1 = L... high impedance at pin 5	

\*Include: 25°C tolerance, operating temperature range, input voltage change, aging, load change, shock and vibration

DIMENSIONS

Unit: mm

**Enable/Disable Function**

Input (Pin1)	Output (Pin5)
Open	Enable
V <sub>DD</sub> ≥ 2.2V <sub>DD</sub>	Enable

**Pin Connection**

Pin	Connection
#1	Tri-State / NC
#4	GND
#5	Output
#8	V <sub>DD</sub>

**HCMOS Test Circuit**

\*\*Includes stray and parasitic capacitance

Enable/Disable function

CL\*\* = 15pF or 50pF (See individual spec sheet)

**HCMOS Output Waveform**

HONG KONG:  
 NAKAGAWA ELECTRONICS LIMITED  
 +852 2389 9201 sales@nkg.com.hk  
 +852 2341 0001 www.nkg.com.hk

China Shenzhen office:  
 深圳中川晶体电子有限公司  
 +86(0)755 2598 2648 sales\_sz@nkg.cn  
 +86(0)755 2598 2390 www.nkg.com.hk

China Suzhou office:  
 苏州纳美电子有限公司  
 +86(0)512 8818 7890 sales\_nm@nkg.cn  
 +86(0)512 8818 7899 www.nkg.com.hk