

# VCXO



HUAFENG  
CRYSTAL

## HVA Series

- Voltage controlled crystal oscillator
- HCMOS/TTL output
- 5.0V / 3.3V supply voltage
- 14 Pin / 8 Pin DIP package
- Custom lead length options available
- Wide frequency and pull range



### ELECTRICAL SPECIFICATIONS

Frequency Range		1.000 to 100.000MHz(Full Size) 1.000 to 60.000MHz(Half Size)	
Operating Temperature Range		0 to +70°C or -40 to +85°C	
Storage Temperature Range		-40 to +85°C	
Supply Voltage(V <sub>cc</sub> )		5.0V <sub>cc</sub> ± 5%	3.3V <sub>cc</sub> ± 5%
Aging(at 25°C)		± 3ppm/year Max	
Load Drive Capability		10TTL Load or 15pF HCMOS Load	
Start Up Time		10msec Max	
Frequency Deviation/	2.5V <sub>cc</sub> ± 2.0V <sub>cc</sub>	± 10, ± 30, ± 50, ± 100, ± 150ppm Min	
Pin 1 Control Voltage	2.5V <sub>cc</sub> ± 2.5V <sub>cc</sub>	± 10, ± 30, ± 50, ± 100, ± 150, ± 200ppm Min	
	1.65V <sub>cc</sub> ± 1.65V <sub>cc</sub> (or ± 1.5V <sub>cc</sub> )	± 10, ± 30, ± 50, ± 100, ± 150ppm Min ± 300ppm Min(Optional)	
Linearity		± 20, ± 15, ± 10, ± 5%(Optional)	
Input Current	1.000 to 20.000MHz	20mA Max	15mA Max
	20.001 to 40.000MHz	30mA Max	25mA Max
	40.001 to 60.000MHz	40mA Max	35mA Max
	60.001 to 100.000MHz	50mA Max	45mA Max
Frequency Stability		± 50, ± 25, ± 20, ± 10ppm [See table 1]	
Output Voltage Logic High(V <sub>OH</sub> )	w/TTL Load	2.4V <sub>cc</sub> Min	
	w/HCMOS Load	90% of V <sub>cc</sub> Min	
Output Voltage Logic Low(V <sub>OL</sub> )	w/TTL Load	0.4V <sub>cc</sub> Max	
	w/HCMOS Load	10% of V <sub>cc</sub> Max	
Duty Cycle	at 50% of Waveform	50 ± 10%[STD]	
	w/HCMOS Load or	50 ± 5%[Optional]	
	1.4V <sub>cc</sub> w/TTL Load		
Rise / Fall Time		5 nsec Max	
Period Jitter: Absolute		± 100ps Max ≤60.000MHz	
		± 200ps Max >40.000MHz	
Period Jitter: One Sigma		± 25ps Max ≤60.000MHz	
		± 50ps Max >40.000MHz	

