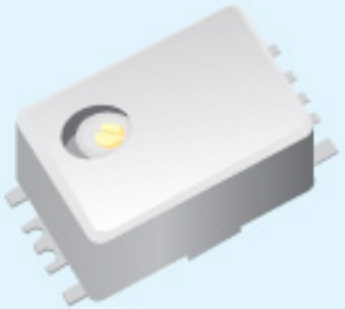
TCXO & VCTCXC

HTB Series

HUAFENG CRYSTAL

- Temperature compensated crystal oscillator
- HCMOS / TTL output
- Clipped sinewave output
- 5.0V/3.3V supply voltage
- Internal or external voltage control option available



■ ELECTRICAL SPECIFICATIONS

		TTL/HCMOS	CLIPPED SINEWAVE
Frequency Range		1.200 to 100.000MHz	9.600 to 35.000MHz
Load Drive Capability		10TTL Load or 15pF HCMOS Load Max	10kOhms//10pF
Output Voltage	Logic High(VOH)	w/TTL:2.4Vdc Min w/HCMOS:90% of Vdd Min	1.0Vp-p Min (Vdd:5.0Vdc)
	logic Low(VOL)	w/TTL:0.4Vdc Max w/HCMOS:10% of Vdd Max	0.8Vp-p Min (Vdd:3.3Vdc)
Frequency Stability		vs.Operating Temperature Range vs.Input Voltage(±5%) vs.Load(±10%)	See Table 1 ±0.3ppm Max ±0.3ppm Max
Supply Voltage(Vdd)		5.0Vdc±5%, 3.3Vdc±5%	5.0Vdc±5%, 3.3Vdc:±5%
Input Current		1.200 to 27.000MHz 20mA Max 15mA Max 27.001 to 100.000MHz 35mA Max 30mA Max	9.600 to 27.000MHz 2mA Max 1.5mA Max 27.001 to 35.000MHz 3mA Max 2.5mA Max
Rise / Fall Time		5n sec Max 4n sec Max	
Duty Cycle		50±10(%)	
Internal Trim(Top of Can)		±3ppm Min	
Control Voltage(External)		2.5Vdc ±2.0Vdc(Vdd:5Vdc), 1.65Vdc±1.0Vdc(Vdd:3.3Vdc) Positive Transfer Characteristic	
Frequency Deviation		±5ppm or ± 10ppm Minimum Over Control Voltage	
Aging(at 25℃)		±1ppm/year Max	

■ PART NUMBERING GUIDE

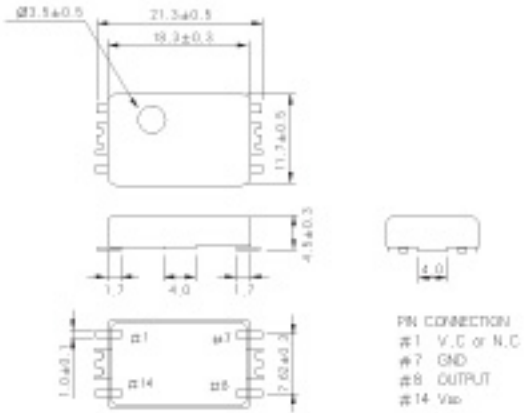
HTB 3 15 A M 5 - 10.000M

- SUPPLY VOLTAGE(Vcc)
  3 ; 3.3Vdc
  Blank ; 5.0Vdc
- FREQUENCY STABILITY TABLE 1.
- OPERATING TEMPERATURE RANGE TABLE 1.
- OUTPUT
  T ; TTL
  M ; HCMOS
  C ; COMPATIBLE
  S ; CLIPPED SINEWAVE
- FREQUENCY DEVIATION
  BLANK ; NO CONNECTION(TCXO)
  5 ; ±5ppm Min
  10 ; ±10ppm Min
- FREQUENCY
  M ; MHz

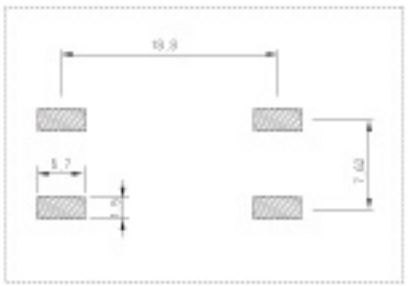
TABLE 1.

OPERATING TEMPERATURE		FREQUENCY STABILITY (±PPM) * Denotes Availability △ not available in 25MHz ~ 100MHz							
Range	Code	1.5PPM	2.0PPM	2.5PPM	3.0PPM	3.5PPM	4.0PPM	4.5PPM	5.0PPM
		15	20	25	30	35	40	45	50
0 ~ 50℃	A	*	*	*	*	*	*	*	*
-10 ~ 60℃	B	*	*	*	*	*	*	*	*
-10 ~ 70℃	C	△	*	*	*	*	*	*	*
-20 ~ 70℃	D	△	*	*	*	*	*	*	*
-30 ~ 60℃	E		△	*	*	*	*	*	*
-30 ~ 70℃	F		△	*	*	*	*	*	*
-30 ~ 75℃	G			*	*	*	*	*	*
-40 ~ 80℃	H					*	*	*	*
-40 ~ 85℃	I					*	*	*	*

■ MECHANICAL DIMENSIONS

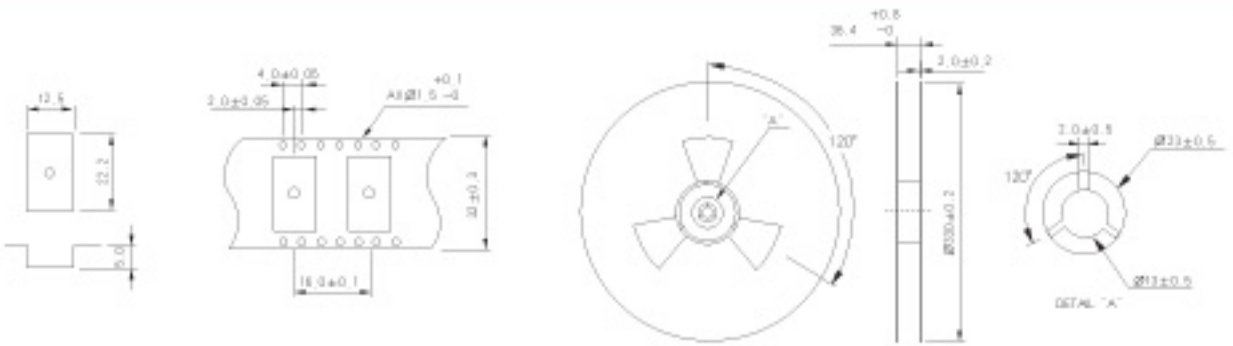


PIN CONNECTION
#1 V.C or N.C
#7 GND
#8 OUTPUT
#14 Vcc



LAND PATTERN

■ TAPE AND REEL DIMENSION



■ ENVIRONMENTAL / MECHANICAL SPECIFICATIONS

PARAMETER	SPECIFICATIONS
Seal Integrity	Bubble test in Perfluorocarbon at +125℃ ± 5℃ for 60 seconds minimum(Internal Crystal).
Solderability	Sn63 Solder dip at +230℃ ± 5℃ for 5 seconds/95% coverage.
Marking Permanency	10 Stokes with brush after 1 minute soak in solvent,3 times.
Shock	Pandom drop on hard wooden plate 3 times form a height of 50cm
Vibration	Frequency with an amplitude of 1.5mm sweeping between 10Hz to 55Hz within 1 minute(approximately)for 2 hours minimum on each axis (X,Y and Z)for a total of 6 hours.