

STRATUM -III SMD VCTCXO

AST3



RoHS
Compliant



7.0 x 5.0 x 2.0mm

FEATURES:

- High Precision over temperature (± 0.37 ppm over -40°C to $+85^{\circ}\text{C}$)
- Excellent long term stability (± 4.60 ppm Max. over 20-Year life)
- Small Profile (7*5*2 mm)
- Low Power ($< 6\text{mA}$ CMOS; $< 3.5\text{mA}$ Sinewave)
- Exceptional Close-in Phase Noise (-140 dBc/Hz @ 1kHz typ; 12.80MHz carrier)

APPLICATIONS:

- Wireless & Wireline communications
- Cellular Infrastructure
- Point-to-Point Radios
- Broadband Equipment
- Test & Measurement Equipment
- GPS tracking with precision hold-over accuracy

ELECTRICAL SPECIFICATIONS:

PARAMETERS	
ABRACON P/N	AST3 Series
Frequency	10.000MHz to 26.000MHz
Standard Frequencies	10, 12.8, 19.2, 19.44, 25.6 MHz
Operating temperature	-20°C to $+70^{\circ}\text{C}$ (see option)
Storage temperature	-55°C to $+125^{\circ}\text{C}$
Overall Frequency Stability*	$\pm 4.6\text{ppm}$ over 20-years Referenced to $+25^{\circ}\text{C}$
Frequency Stability vs Temp range	
- -20°C to $+70^{\circ}\text{C}$	$\pm 0.28\text{ppm}$
- -40°C to $+85^{\circ}\text{C}$	$\pm 0.37\text{ppm}$
Supply voltage (Vdd)	$3.3\text{Vdc} \pm 5\%$ (see option)
Symmetry	45/55 % @ 50% Vdd
Output level	CMOS (see option)
Output load	15pF (CMOS, Clipped Sine wave)
Output Voltage (CMOS)	VOH = $0.9 \cdot \text{Vdd}$ min. VOL = $0.1 \cdot \text{Vdd}$ max.
Output Voltage (Clipped Sinewave)	0.8 Vp-p min
Tri-state Function	VIH = 80%Vdd min.: Oscillation, VIL = 20%Vdd max.: High Z
Start-up-time	2ms max.
Current consumption	6mA max. (CMOS output) 3.5mA max. (Clipped Sine wave output)
Vc port impedance	100k Ω min.
Control voltage range (Vc)	0 to Vdd (for VCTCXO)
Frequency pull range	± 5.0 ppm min. (see options)
Frequency pull slope	Positive
Spurious response:	-70 dBc max.
Phase Noise (12.8MHz carrier)	
@ 100 Hz offset	-120 dBc/Hz
@ 1000 Hz offset	-140 dBc/Hz
@ 10000 Hz offset	-148 dBc/Hz

* Overall frequency stability includes: as received set-tolerance, stability over temperature, shift through stand reflow, aging over 20-year product life, supply voltage and output load variation.



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OPTIONS & PART IDENTIFICATION:

(Left blank if standard)

AST3 - Frequency - - - -

P/N and Vdd (V)	
Blank	3.3±5%
A	5.0±5%

Temp Range	
L	- 40°C to +85°C

Packaging	
Blank	Bulk
T	Tape and Reel

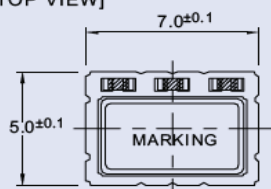
Frequency	
XX.XXX MHz	

Output	
Blank	CMOS
SW	Clipped Sine wave

Pulling	
TC	TCXO
N5	±5 ppm
N8	±8 ppm

OUTLINE DRAWING:

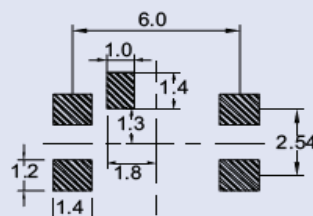
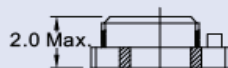
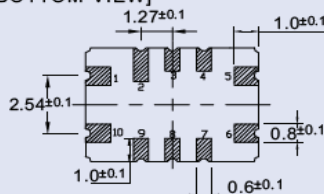
[TOP VIEW]



[SIDE VIEW]



[BOTTOM VIEW]

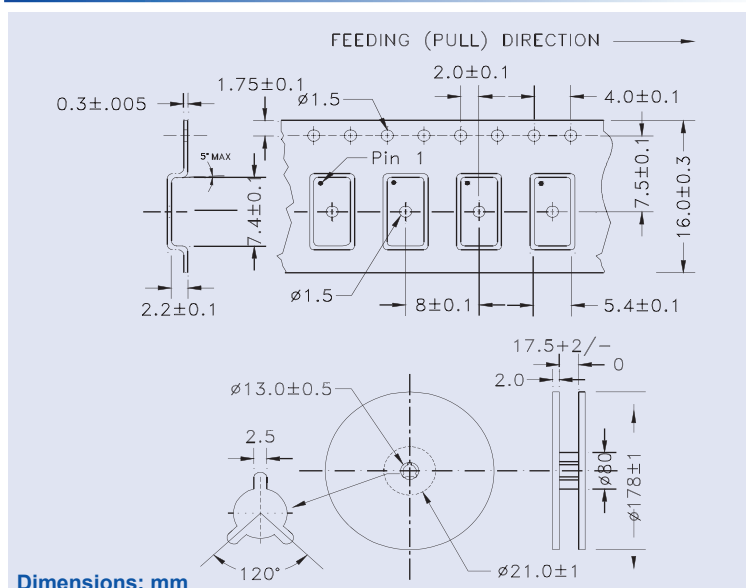


Note: Recommend using an approximately 0.01uF bypass capacitor between PIN 5 and 10.

PIN	FUNCTION
1	Control voltage (VC); NC for a TCXO
2	NC
3	NC
4	NC
5	GND
6	RF Output (CMOS or Clipped Sinewave)
7	NC
8	NC
9	Tri-state Control
10	Vdd

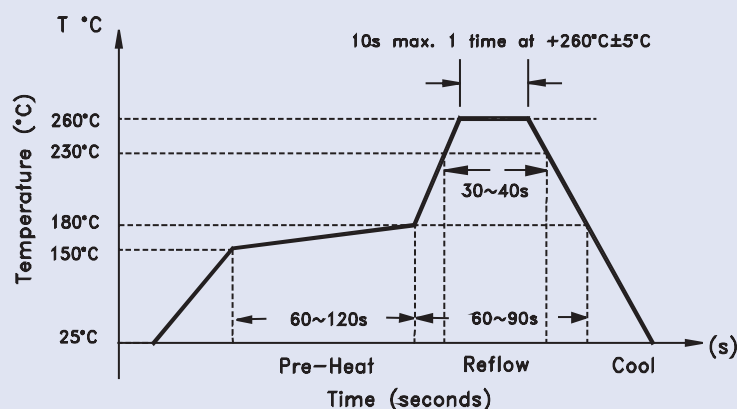
Dimensions: mm

TAPE & REEL:



Dimensions: mm

REFLOW PROFILE



NOTE: Abracon manufactured products are intended for general commercial and industrial use. For applications requiring high reliability and/or presenting extreme operating environment, written consent & authorization from Abracon is required.

ABRACON IS
ISO 9001 / QS 9000
CERTIFIED



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CORPORATION

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