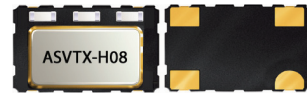


# VOLTAGE CONTROLLED SMD TEMPERATURE COMPENSATED CRYSTAL OSCILLATOR



7.0 X 5.0 X 2.5mm



ASVTX-H08

## FEATURES:

- Compact and low height with low phase noise
- Suitable for RoHS reflow profile
- Low current consumption

## APPLICATIONS:

- Cellular and cordless phones
- Standard OSC for exact equipment
- Mobile communication equipment
- Portable radio equipment and music player

## STANDARD SPECIFICATIONS:

PARAMETERS	
ABRACON P/N	ASVTX-H08 Series
Frequency:	1.000MHz to 156.000MHz (Vdd=2.8, 3.0, and 3.3V), 1.000MHz to 160.000MHz (Vdd=5.0V)
Standard Frequencies	10, 12.8, 13, 14.4, 16.0, 16.384, 19.2, 19.44, 19.68, 20, 25, 27, 38.88, 77.76, 155.52MHz
Operating Temperature	- 30° C to + 85° C (See Table 3 for options)
Storage Temperature	- 55° C to + 120° C
Frequency Stability:	
vs +25°C	± 2ppm
vs Operating Temp.	±2.5ppm standard (See Table 3 for options)
vs Aging	± 1ppm/1st year max. at +25°C
vs Supply Voltage	± 0.2ppm (± 5% change input voltage change)
vs Load	± 0.2ppm (± 10% loading condition change)
vs Reflow	±1ppm max., 1 reflow and measured 24 hours afterwards.
Supply Voltage (Vdd):	3.0V ±5% Standard (See options)
Current Consumption:	See Table 1
Output Type:	Square Wave
Output Logic Level:	Logic "1": 0.9*Vdd min., Logic "0": 0.1*Vdd max.
Output Load:	15pF
Phase Noise (Reference only):	See Table 2
Rise and Fall Time:	1.0 to 3.0 ns max. (frequency dependant) measured at 20% « 80% of the waveform
Duty Cycle (Symmetry) @ 50% VDD:	50%±10%
Start-up time:	10ms max.

Table 1: Current Consumption

V <sub>DD</sub>	Current Consumption (typical)				
	8.192MHz	10MHz	24.576MHz	60MHz	150MHz
2.8V	2mA	3mA	5mA	11mA	19mA
3V	2mA	4mA	6mA	14mA	23mA
3.3V	2mA	4mA	6mA	14mA	23mA
5V	5mA	7mA	10mA	24mA	36mA

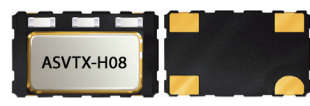
Table 2: Phase Noise and RMS Jitter (typical values at +25°C)

(MHz)	Offset			
	10Hz	100Hz	1kHz	10kHz
10 (3.3V)	-96 dBC/Hz	-120 dBC/Hz	-135 dBC/Hz	-142 dBC/Hz
10 (5V)	-93 dBC/Hz	-120 dBC/Hz	-137 dBC/Hz	-144 dBC/Hz
40 (3.3V)	-71 dBC/Hz	-109 dBC/Hz	-118 dBC/Hz	-119 dBC/Hz
64 (3.3V)	-68 dBC/Hz	-99 dBC/Hz	-118 dBC/Hz	-121 dBC/Hz
150 (3.3V)	-63 dBC/Hz	-91 dBC/Hz	-108 dBC/Hz	-116 dBC/Hz
155.52 (3.3V)	-54 dBC/Hz	-91 dBC/Hz	-110 dBC/Hz	-116 dBC/Hz

	Offset			RMS Jitter
	100kHz	1MHz	5MHz	
10 (3.3V)	-143 dBC/Hz	-149 dBC/Hz	-150 dBC/Hz	2.5ps
10 (5V)	-145 dBC/Hz	-152 dBC/Hz	-152 dBC/Hz	1.8ps
40 (3.3V)	-116 dBC/Hz	-108 dBC/Hz	-116 dBC/Hz	30.0ps
64 (3.3V)	-117 dBC/Hz	-109 dBC/Hz	-120 dBC/Hz	18.0ps
150 (3.3V)	-112 dBC/Hz	-105 dBC/Hz	-122 dBC/Hz	10.0ps
155.52 (3.3V)	-108 dBC/Hz	-105 dBC/Hz	-122 dBC/Hz	11.4ps



# VOLTAGE CONTROLLED SMD TEMPERATURE COMPENSATED CRYSTAL OSCILLATOR



ASVTX-H08



7.0 X 5.0 X 2.5mm

## OPTIONS & PART IDENTIFICATION:

[Left blank if standard]

ASVTX-H08- [ ] - [ ] MHz - [ ] - [ ]

Supply Voltage
A: 2.8V±5%
Blank: 3.0V±5%
B: 3.3V±5%
C: 5.0V±5%

Packaging
Blank: Bulk
T: Tape and Reel

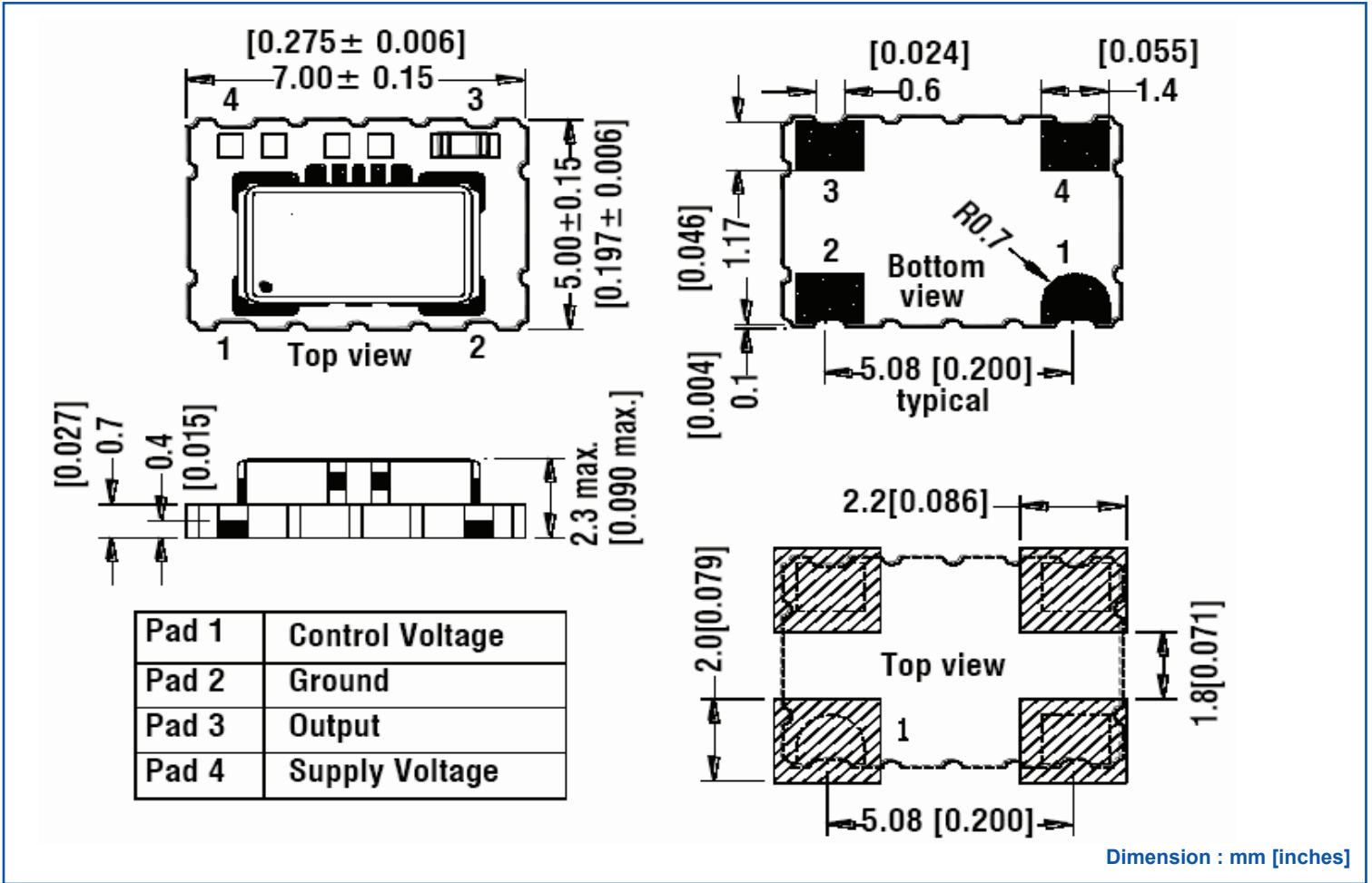
Frequency in MHz
e.g. 720.000kHz
16.384MHz
155.520MHz

Table 3: Frequency Stability vs Operating Temperature

	±0.5ppm	±1ppm	±1.5ppm	±2ppm	±2.5ppm	±3ppm
0°C to +55°C	D5	D10	D15	D20	D25	D30
-10°C to +60°C	E5	E10	E15	E20	E25	E30
-20°C to +70°C	F5	F10	F15	F20	F25	F30
-30°C to +85°C	*	G10	G15	G20	STD	G30
-40°C to +85°C	--	*	H15	H20	H25	H30

\* Please contact Abracon for the availability.

## OUTLINE DIMENSIONS:



ABRACON IS ISO9001:2008 CERTIFIED



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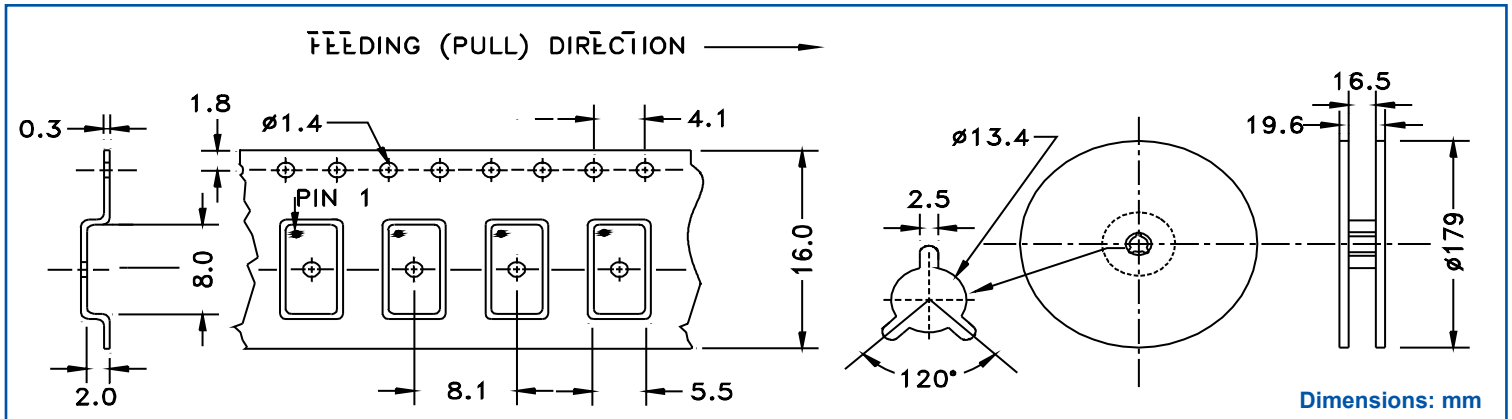
ASVTX-H08



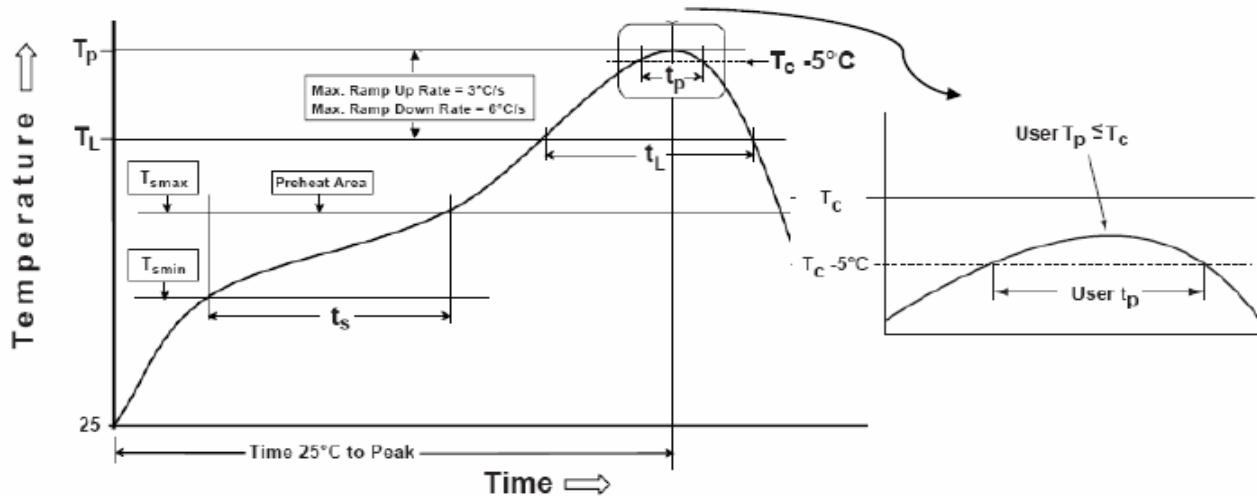
7.0 X 5.0 X 2.5mm



TAPE & REEL: T= tape and reel (1,000pcs/reel)



REFLOW PROFILE:



Profile Feature	Pb-free Assembly
Preheat/Soak	
- Temperature min. (T <sub>s</sub> min.)	150°C
- Temperature max. (T <sub>s</sub> max.)	200°C
- Time (ts) (T <sub>s</sub> min. to T <sub>s</sub> max.)	60 to 180 seconds
Ramp-up rate (T <sub>L</sub> to T <sub>p</sub> )	3°C / sec. max.
Liquidous temperature (T <sub>L</sub> )	217°C
Time (t <sub>L</sub> ) maintained above T <sub>L</sub>	60 to 150 seconds
Peak package body temperature (T <sub>p</sub> )	260°C
Time (T <sub>p</sub> ) within 5°C of the classification temperature T <sub>c</sub>	20 to 40 seconds
Ramp-down rate (T <sub>p</sub> to T <sub>L</sub> )	6°C / second max.
Time 25°C to peak temperature	8 minutes max.

All temperatures refer to topside of the package, measured on the package body surface.

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