# **MEMS CLOCK OSCILLATOR**

### **ASVM**





7.0x 5.0 x 0.85 mm

### **FEATURES:**

- Low Power Consumption <10mA
- Low Stand by Current < 1uA
- Exceptional Stability Over Temp. at 40 to +85°C
- Available over Extended Temp Range
- Low Cost-Compact QFN Plastic Packaging
- Compact Package design

#### > APPLICATIONS:

- CCD Clock for VTR Camera
- Equipment Connected to PCs
- Low Profile Equipment
- Lower Cost Crystal Oscillator Replacement
- Computers and Peripherals
- Portable Electronics (MP3 Players, Games)
- Consumer Electronics such as TV's, DVR's, etc.
- Vibrant, Shock-Prone & Humid Environments for Industrial Equipment
- Demanding Military & Automotive Electronics

#### **STANDARD SPECIFICATIONS:**

Parameters		Minimum	Typical	Maximum	Units	Notes	
Frequency Range:			1.0		150	MHz	
Operating Temperature:			0		+70	°C	See options
Storage Temperature:			-55		+150	°C	
Overall Frequency Stability*:			-100		+100	ppm	See options
Supply Voltage (Vdd):		+1.8 ~ +3.3			V	See options	
Supply Current (no load):	1.0 to 39.9999MHz			3	10	mA	No load RL=∞ T=25°C
	40.0 to 79.9999MHz			4	10		
	80.0 to 124.9999MHz			5	10		
	125.0 to 150MHz			6	10		
Output voltage.		$ m V_{OH}$	$0.8*V_{dd}$				
		$V_{\mathrm{OL}}$			$0.2*V_{dd}$	V	15pF
Rise Time: Tr		Tr		1.3	2.0		15pF; T=25°C
Fall Time:		Tf		1.3	2.0	ns	20%/80%*VDD
Output Load:		15pF max / 10kΩ min.			pF	See options	
Symmetry:		45		55	%	@1/2Vdd	
Startup Time:			1.5	3.0	ms		
Disable Time:				20	100	ns	
Disable Stand-by Current:					1	uA	
Tri-state Function (Stand-by):		"1" (VIH\ge 0.75*Vdd) or Open: Oscillation "0" (VIH\le 0.25*Vdd): Hi Z			V		
Cycle to cycle jitter:				95		ps	F=100MHz
Aging:		-5.0		+5.0	ppm	First year	

#### **Absolute Maximum Ratings**

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Item	Minimum	Maximum	Unit	Condition		
Supply Voltage	-0.3	+4.0	V			
Input Voltage	-0.3	Vdd+0.3	V			
Junction Temp.		+150	°C			
Soldering Temp.		+260	°C	40sec max		
ESD			V			
HBM		2,000				
MM		200				
CDM		500				



REVISED: 11.30.2018

## MEMS CLOCK OSCILLATOR

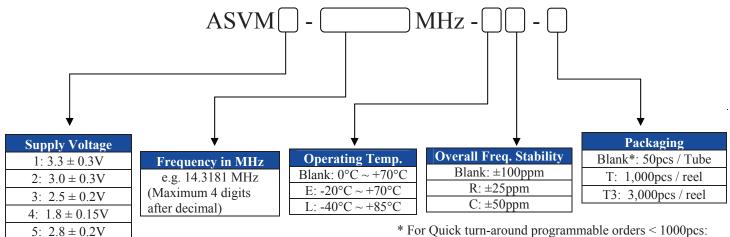






 $7.0x\ 5.0\ x\ 0.85\ mm$ 

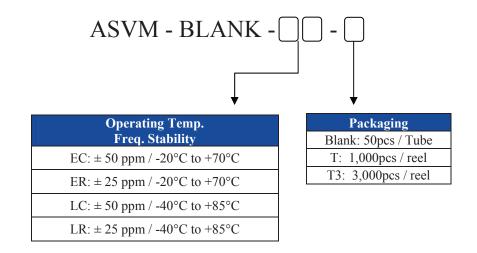
#### PROGRAMMED ORDERS (QUANTITY > 1,000PCS)



\* For Quick turn-around programmable orders < 1000pcs: Due to the immediate availability of stock and the qty of the order, the parts may be delivered as BULK: Cut Tape, Loose parts in Antistatic Bag or in Tube(s). The MOQ per the series will still apply for Tube packaging.

#### **Un-Programmed Orders (Quantity < 1,000pcs)**

Blank un-programmed oscillators are available for quick turn engineering requirements. Please call ABRACON for more information.





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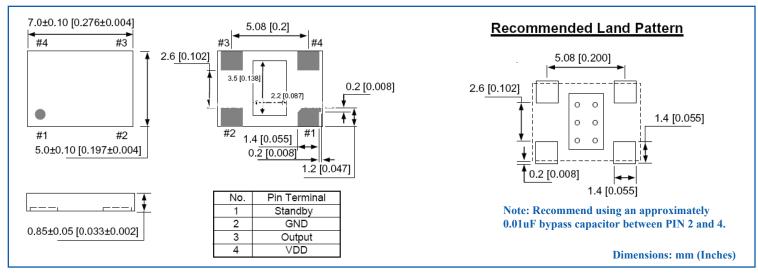
**ASVM** 





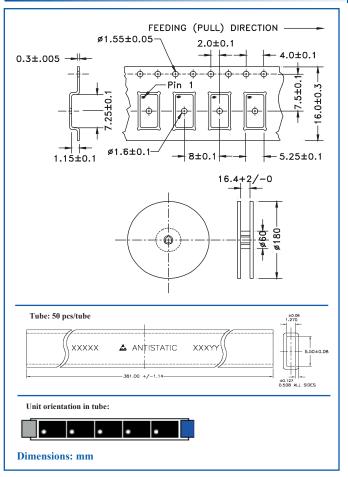
 $7.0x 5.0 \times 0.85 \text{ mm}$ 

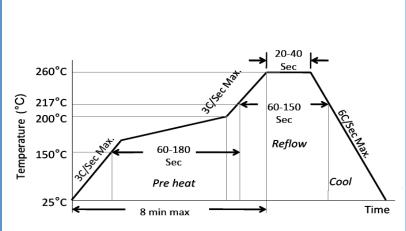
#### **OUTLINE DRAWING:**



#### **► TAPE & REEL:**

### **REFLOW PROFILE:**





Ramp-Up Rate (200°C to Peak Temp)	3°C/Sec Max.		
Preheat Time 150°C to 200°C	60-180 Sec		
Time maintained above 217°C	60-150 Sec		
Peak Temperature	255-260°C		
Time within 5°C of actual Peak	20-40 Sec		
Ramp-Down Rate	6°C/Sec Max.		
Time 25°C to Peak Temperature	8 min Max.		

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