

# ACCELERATE THE SPEED OF CIRCUIT DESIGN... OSCILLATORS IN SECONDS, NOT DAYS!

*The MEMSpeed Pro oscillators operate down to 4mA with 1uA standby current!*



**Introducing the MEMSpeed Pro, Low Power Oscillator Programmer.** The Oscillator Programming Kit includes all hardware and software necessary for the user to easily program custom oscillator frequencies in the field, or in the lab.

## FEATURES

 **MEMS Oscillator Programming Kit featuring Discera Pure Silicon Resonator Technology.**

**Field Programmable Output Frequencies**  
User specified from 1 to 150MHz

**Programmable Supply Voltage Range**  
1.8, 2.5, and 3.3v operation

**Standard SMD Package Sizes**  
2.5 x 2.0mm, 3.2 x 2.5mm, 5.0 x 3.2mm and 7.0 x 5.0mm

**PC/USB Interface**  
Microsoft Windows™ compatible software

**Includes Programmer and All Hardware**  
QuickStart Guide, Socket Adapters, USB Cable, Tweezers, CD-ROM and Blank Oscillators.

## SPECIFICATIONS

Frequency Range	1.0000 to 150.0000MHz
Power Supply	USB Driven
Programmable Operating / Supply Voltage Range	1.8v, 2.5v, and 3.3v
Oscillator Packages	2.5 x 2.0mm SMD 3.2 x 2.5 mm SMD 5.0 x 3.2 mm SMD 7.0 x 5.0mm SMD
Oscillator Blank Part Number	ASFLM-Blank, ASEM-Blank ASDM-Blank, ASVM-Blank
Socket Adapters (ZIF)	ASFLM-Adapter, ASEM-Adapter ASDM-Adapter, ASVM-Adapter
Programming Time	Approx. 1 sec / pc
User Interface	USB (MS Windows XP & Vista) - or - Stand Alone (display menu)
Programmer Size	6" x 3.5" x 1"

**For ordering information contact Abracon or our stocking distributors.**



REVISION: 05/07/10

30332 Esperanza, Rancho Santa Margarita, California 92688  
tel 949-546-8000 fax 949-546-8001 | www.abracon.com



# MEMSPEED PRO

## Clock Oscillator Programmer

*Looking for the lowest power oscillators?...*

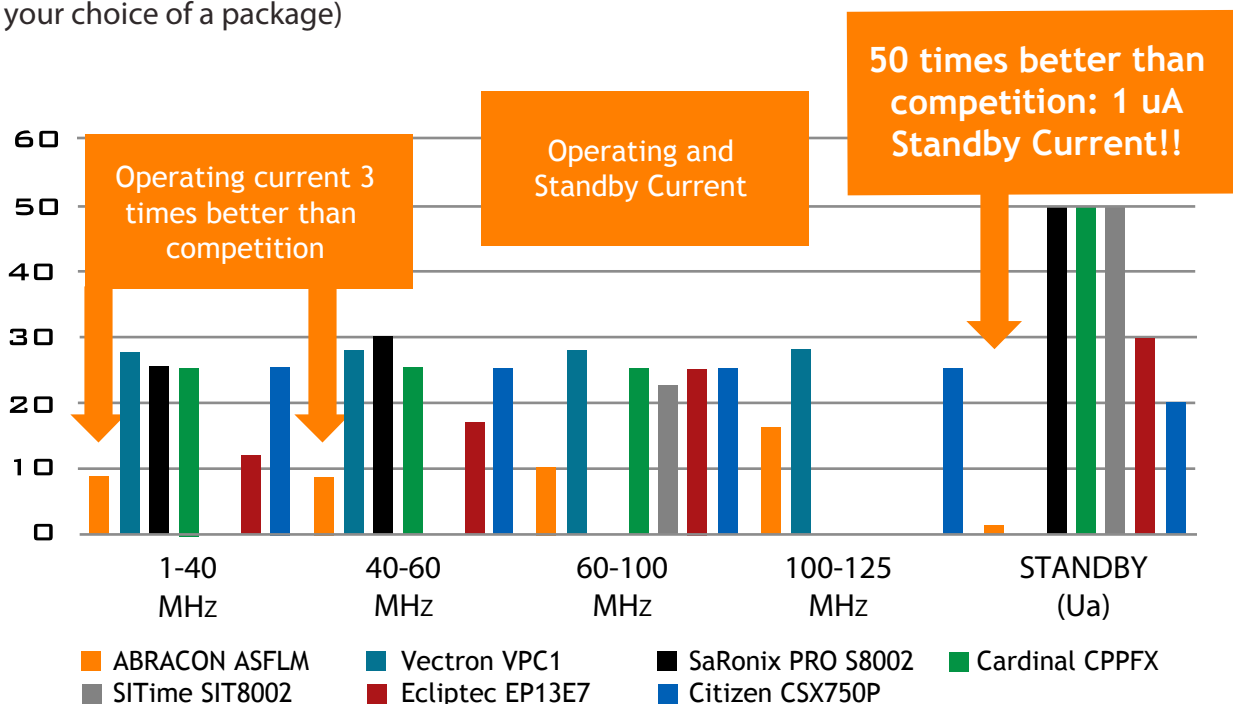
New programming kit allows you to program parts to any frequency between 1 and 150 MHz In 1 second!!!

### \$499 MEMSpeed Pro™ Deluxe Kit includes:

- MEMSpeed Pro
- Package Types Include a choice of: 5.0 x 3.2 and 3.2 x 2.5mm, 5.0 x 3.2 and 2.5 x 2.0mm, 3.2 x 2.5 and 2.5 x 2.0mm, 7.0 x 5.0 and 5.0 x 3.2mm, 7.0 x 5.0 and 3.2 x 2.5mm, or 7.0 x 5.0 and 2.5 x 2.0mm.
- USB Cable
- Tweezers
- Quickstart Guide and CD-ROM for PC Installation
- 200 unprogrammed blank oscillators - \$500 value! (100 pcs each of your choice of two packages)

### \$319 MEMSpeed Pro™ Standard Kit includes:

- MEMSpeed Pro
- Package Types Includes a choice of: 7.0 x 5.0mm, 5.0 x 3.2mm, 3.2 x 2.5mm, or 2.5 x 2.0mm.
- USB Cable
- Tweezers
- Quickstart Guide and CD-ROM for PC Installation
- 50 unprogrammed blank oscillators - \$125 value! (50 pcs of your choice of a package)



\* Information provided is based on published specification data and is provided for reference only. No warranty is implied.

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# ULTRA MINIATURE PLASTIC PACKAGE PURE SILICON™ CLOCK OSCILLATOR

ASDM



ASDM



RoHS  
Compliant

Life Size

2.5 x 2.0 x 0.80mm

**MEMS  
Technology!**

## FEATURES:

- Ultra Miniature Pure Silicon™ Clock Oscillator
- MEMS Technology by Discera
- Low Power Consumption <10mA
- Exceptional Stability Over Temp. at 40 to +85°C
- Available over Extended Operating Temperature
- Available in 30kG Shock Resistance Configuration
- 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

ABRACON P/N:	ASDM Series
Frequency range:	1.000 MHz - 150 MHz
Operating temperature:	0°C to + 70°C (see options)
Storage temperature:	-55°C to +150°C
Overall Frequency Stability:	± 100 ppm max. (see options)
Supply Voltage (Vdd):	See options
Supply Current (No Load)	3.0mA typ, 10.0mA max (1.0 to 39.9999MHz) 4.0mA typ, 10.0mA max (40.0 to 79.9999MHz) 5.0mA typ, 10.0mA max (80.0 to 124.9999MHz) 6.0mA typ, 10.0mA max (125.0 to 150MHz) (T=+25°C, C <sub>L</sub> =0pF, R <sub>L</sub> =∞, Vdd=3.3 ± 0.3V, 3.0 ± 0.3V, 2.8 ± 0.2V, 2.5 ± 0.2V, 1.8 ± 0.15V)
Symmetry	45/55 % max.@ 1/2Vdd
Rise and fall time (Tr/Tf)	1.3ns typ, 5ns max. (+25°C, 15pF output load, 20/80% Vdd.)
Output load	15 pF max., 10kohms min.
Output voltage	VOH = 0.8* Vdd min. ; VOL = 0.2* Vdd max.
Input voltage	VIH = 0.75* Vdd min. ; VIL = 0.25* Vdd max.
Start-up time	3.0ms typ, 10ms max.
Disable time	20ns typ, 100ns max.
Tr-istate function (Stand-by)	"1" or open: Oscillation "0" : No oscillation/Hi Z
Stand-by Current	1uA max.
Aging at +25°C/year	± 5ppm max. (T=+25 C, Vdd=3.3 ± 0.3V, 3.0 ± 0.3V, 2.8 ± 0.2V, 2.5 ± 0.2V, 1.8 ± 0.15V)
Jitter (reference only):	100MHz: 95 ps

### Absolute Maximum Ratings

Item	Min.	Max	Unit	Condition
Supply Voltage	-0.3	+4.0	V	
Input Voltage	-0.3	VDD+0.3	V	
Junction Temp	-	+150	°C	
Storage Temp	-55	+150	°C	
Soldering Temp	-	+260	°C	40 sec max.
ESD				
HBM		2000	V	
MM		200		
CDM		500		

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CERTIFIED



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# ULTRA MINIATURE PLASTIC PACKAGE PURE SILICON™ CLOCK OSCILLATOR

ASDM



ASDM



RoHS  
Compliant

Life Size

2.5 x 2.0 x 0.80mm

## OPTIONS AND PART IDENTIFICATION:

### PART NUMBER FOR PROGRAMMED ORDERS

ASDM□ - Frequency - □ - □ - □

Supply Voltage		Frequency	Operating Temp.		Freq. Stability		Packaging	
1	3.3 ± 0.3V	e.g. 14.3181 MHz (Maximum 4 digits after decimal)	Blank	0°C to +70°C	Blank	± 100 ppm	Blank	Tube (140pcs/tube)
2	3.0 ± 0.3V		E	-20°C to +70°C	C	± 50 ppm	T	Tape and Reel (1000pcs/reel)
3	2.5 ± 0.2V		L	-40°C to +85°C	R	± 25 ppm		
4	1.8 ± 0.15V							
5	2.8 ± 0.2V							

Please contact Abracon for order assistance for high shock application.

### PART NUMBER FOR UN-PROGRAMMED ORDERS

Blank un-programmed oscillators and our low cost portable programmer are available for quick turn engineering requirements.

Please call ABRACON or visit **MEMSpeed Pro** site <http://www.abracon.com/memspeedpro/memspeedpro.html> for more information.

ASDM - BLANK - □□ - □

Operating Temp. Freq. Stability		Packaging	
EC	± 50 ppm / -20°C to +70°C	Blank	Tube (140pcs/tube)
ER	± 25 ppm / -20°C to +70°C	T	Tape and Reel (1000pcs/reel)
LC	± 50 ppm / -40°C to +85°C		
LR	± 25 ppm / -40°C to +85°C		

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ASDM



Life Size

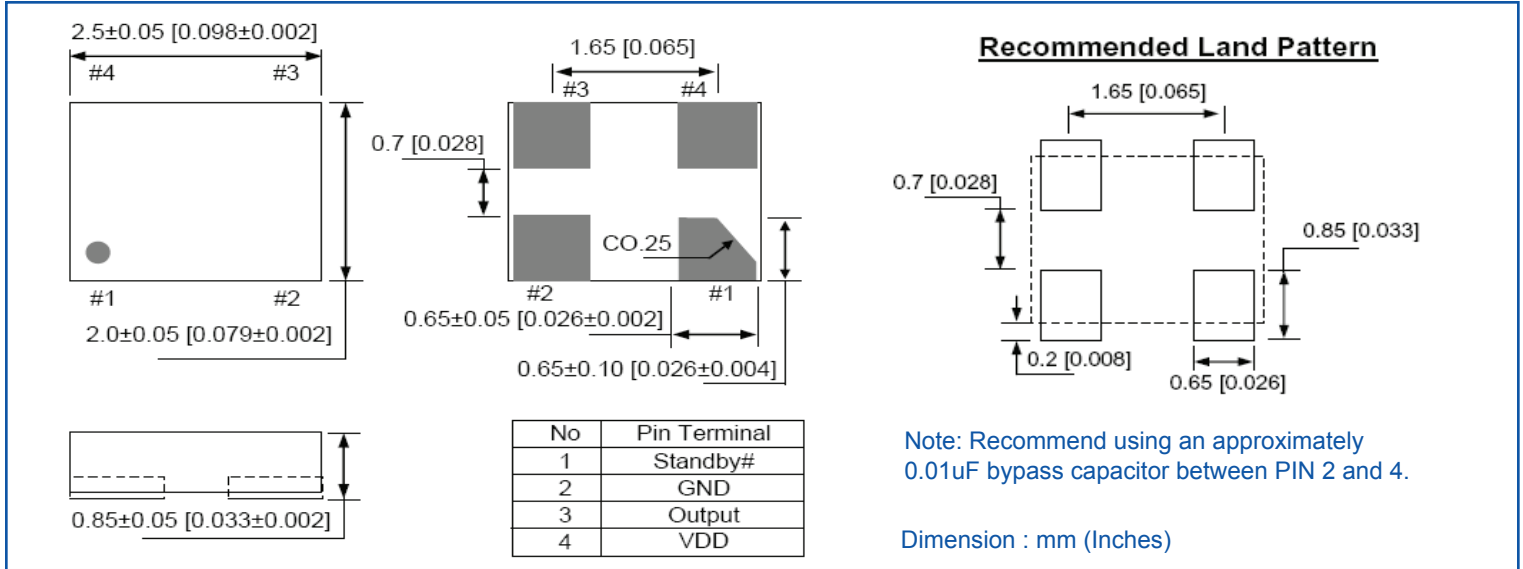
2.5 x 2.0 x 0.80mm

ASDM



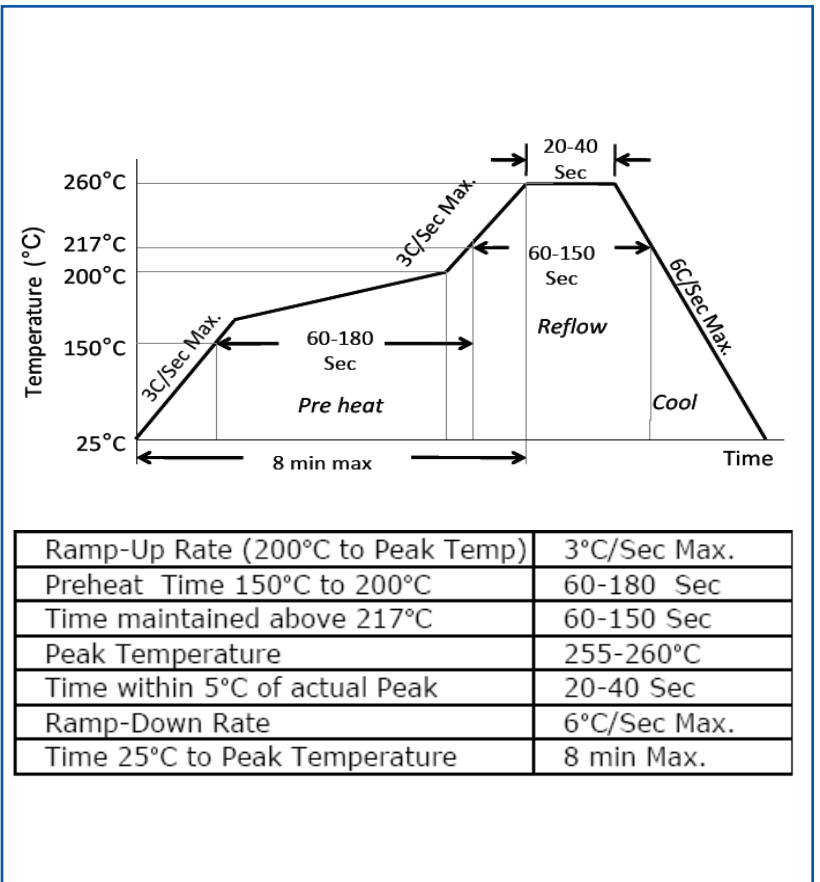
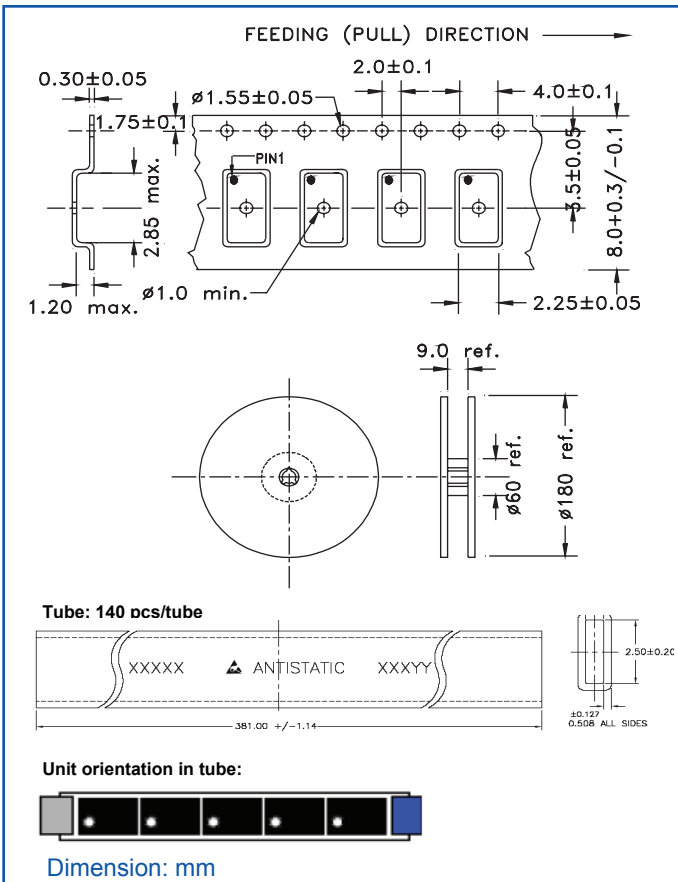
RoHS  
Compliant

## OUTLINE DRAWING:



## TAPE & REEL: Tape and reel 1,000pcs/reel

## REFLOW PROFILE:



Need a test socket for the ASDM Series? To view compatible **PRECISION TEST & BURN-IN SOCKETS** for these parts, [click here](#).

**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.

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# ULTRA MINIATURE PLASTIC PACKAGE PURE SILICON™ CLOCK OSCILLATOR

ASEM



ASEM



RoHS  
Compliant

Life Size

3.2 x 2.5 x 0.85mm

## FEATURES:

- Ultra Miniature Pure Silicon™ Clock Oscillator
- MEMS Technology by Discera
- Low Power Consumption <10mA
- Exceptional Stability Over Temp. at -40 to +85°C.
- Available over Extended Operating Temperature
- Available in 30kG Shock Resistance Configuration
- 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

**MEMSPEED PRO™**  
Clock Oscillator Programmer  
**AVAILABLE NOW!**

## STANDARD SPECIFICATIONS:

### PARAMETERS

ABRACON P/N:	ASEM Series
Frequency range:	1.000 MHz - 150 MHz
Operating temperature:	0°C to + 70°C (see options)
Storage temperature	-55° C to + 150° C
Overall Frequency Stability:	± 100 ppm max. (see options)
Supply Voltage (Vdd):	See options
Supply Current (No Load)	3.0mA typ, 10.0mA max (1.0 to 39.9999MHz) 4.0mA typ, 10.0mA max (40.0 to 79.9999MHz) 5.0mA typ, 10.0mA max (80.0 to 124.9999MHz) 6.0mA typ, 10.0mA max (125.0 to 150MHz) (T=+25°C, C <sub>L</sub> =0pF, R <sub>L</sub> =∞, Vdd=3.3 ± 0.3V, 3.0 ± 0.3V, 2.8 ± 0.2V, 2.5 ± 0.2V, 1.8 ± 0.15V)
Symmetry	45/55 % max.@ 1/2Vdd
Rise and fall time (Tr/Tf)	1.3ns typ, 2ns max. (+25°C, C <sub>L</sub> =15pF, 20/80% Vdd.)
Output load:	15 pF max, 10 kΩ min.
Output voltage:	VOH = 0.8* Vdd min. ; VOL = 0.2* Vdd max.
Input voltage	VIH = 0.75* Vdd min. ; VIL = 0.25* Vdd max.
Start-up time	3.0ms typ, 10ms max.
Disable time	20ns typ, 100ns max.
Tri-State function (Stand-by)	"1" or open: Oscillation; "0" : No oscillation/Hi Z
Stand-by Current	1uA max. (T=+25° C, Vdd=3.3 ± 0.3V, 3.0 ± 0.3V, 2.8 ± 0.2V, 2.5 ± 0.2V, 1.8 ± 0.15V)
Aging at +25°C/year	± 5ppm max.
Jitter (reference only)	100MHz: 95 ps

### Absolute Maximum Ratings

Item	Min.	Max	Unit	Condition
Supply Voltage	-0.3	+4.0	V	
Input Voltage	-0.3	VDD+0.3	V	
Junction Temp	-	+150	°C	
Storage Temp	-55	+150	°C	
Soldering Temp	-	+260	°C	40 sec max.
ESD				
HBM		2000	V	
MM		200		
CDM		500		

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# ULTRA MINIATURE PLASTIC PACKAGE PURE SILICON™ CLOCK OSCILLATOR

ASEM



Life Size

3.2 x 2.5 x 0.85mm

ASEM



RoHS  
Compliant

## PART NUMBER FOR PROGRAMMED ORDERES

ASEM□ - Frequency - □ - □ - □

Supply Voltage		Frequency e.g. 14.3181 MHz (Maximum 4 digits after decimal)	Operating Temp.		Freq. Stability		Packaging	
1	3.3 ± 0.3V			Blank	0°C to +70°C	Blank	± 100 ppm	Blank
2	3.0 ± 0.3V	E		-20°C to +70°C	C	± 50 ppm	T	Tape and Reel (1000pcs/reel)
3	2.5 ± 0.2V	L		-40°C to +85°C	R	± 25 ppm		
4	1.8 ± 0.15V							
5	2.8 ± 0.2V							

Please contact Abracon for order assistance for high shock application.

## PART NUMBER FOR UN-PROGRAMMED ORDERES

Blank un-programmed oscillators and our low cost portable programmers are available for quick turn engineering requirements. Please call ABRACON or visit MEMSpeed Pro site <http://www.abracon.com/memspeedpro/memspeedpro.html> for more information.

ASEM - BLANK - □□ - □

Operating Temp. Freq. Stability		Packaging	
EC	± 50 ppm / -20°C to +70°C	Blank	Tube (110pcs/tube)
ER	± 25 ppm / -20°C to +70°C	T	Tape and Reel (1000pcs/reel)
LC	± 50 ppm / -40°C to +85°C		
LR	± 25 ppm / -40°C to +85°C		

## MEMSPEED PRO™ Clock Oscillator Programmer

Our new MEMSpeed Pro Clock Oscillator Programmer allows you to program parts to any frequency between 1 and 150 Mhz in 1 second! Order online now at [www.abracon.com](http://www.abracon.com).



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# ULTRA MINIATURE PLASTIC PACKAGE PURE SILICON™ CLOCK OSCILLATOR

ASEM



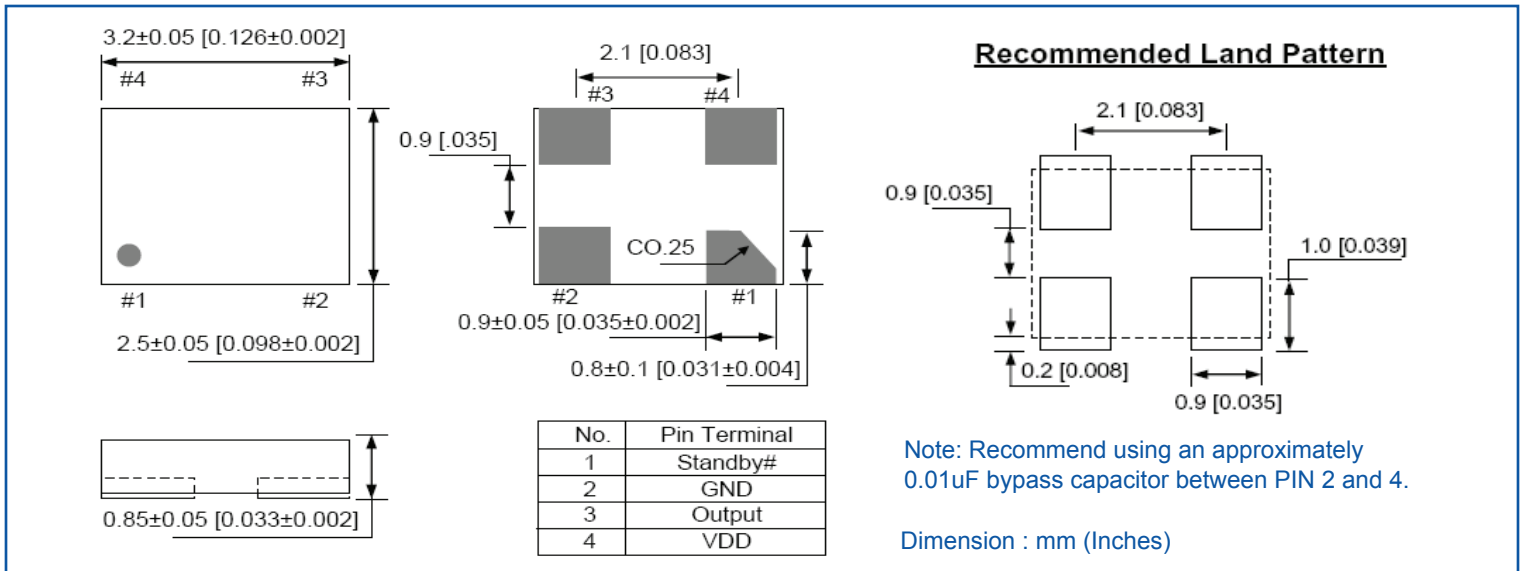
Life Size

3.2 x 2.5 x 0.85mm

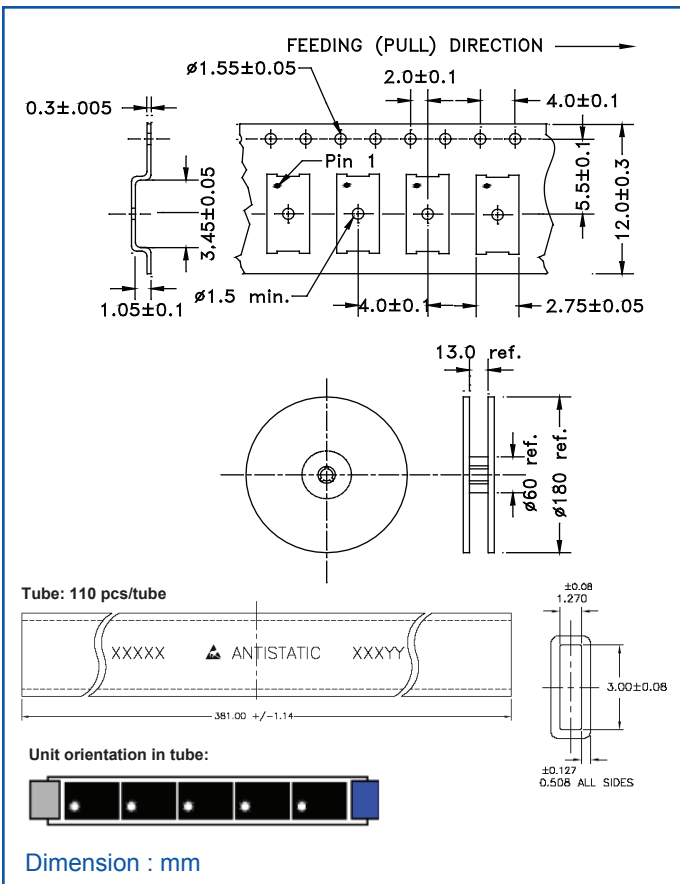
ASEM



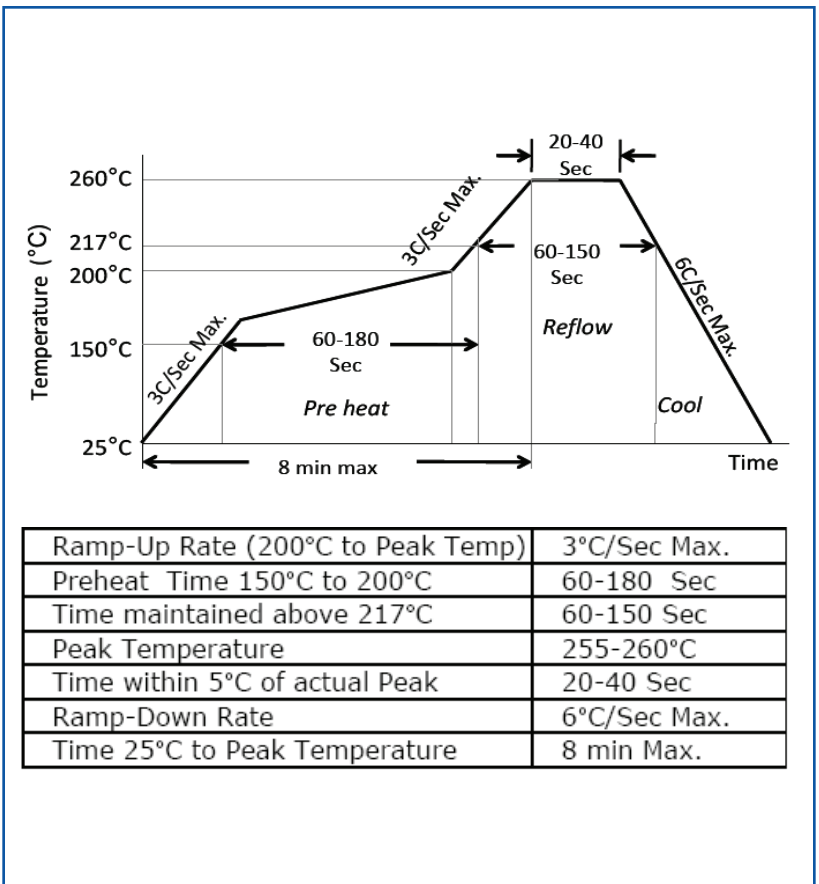
## OUTLINE DRAWING:



## TAPE & REEL: Tape and reel 1,000pcs/reel



## REFLOW PROFILE:



Need a test socket for the ASEM Series? To view compatible **PRECISION TEST & BURN-IN SOCKETS** for these parts, [click here](#). P/N: AXS-3225-04-02

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# ULTRA MINIATURE PLASTIC PACKAGE PURE SILICON™ CLOCK OSCILLATOR

ASFLM



Life Size



5.0 x 3.2 x 0.85mm

ASFLM

RoHS  
Compliant

## FEATURES:

- Ultra Miniature Pure Silicon™ Clock Oscillator
- MEMS Technology by Discera
- Low Power Consumption <10mA
- Low Stand by Current <1uA
- Exceptional Stability Over Temp. at 40 to +85°C
- Available over Extended Temp Range
- Available in 30kG Shock Resistance Configuration
- 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

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Clock Oscillator Programmer  
**AVAILABLE NOW!**

## STANDARD SPECIFICATIONS:

### PARAMETERS

ABRACON P/N	ASFLM Series
Frequency range	1.000 MHz to 150 MHz
Operating temperature	0°C to + 70°C (see options)
Storage temperature:	-55° C to + 150 C
Overall Frequency Stability	± 100 ppm max. (see options)
Supply Voltage (Vdd)	See options
Supply Current (No Load)	3.0mA typ, 10.0mA max (1.0 to 39.9999MHz) 4.0mA typ, 10.0mA max (40.0 to 79.9999MHz) 5.0mA typ, 10.0mA max (80.0 to 124.9999MHz) 6.0mA typ, 10.0mA max (125.0 to 150MHz) (T=+25°C, C <sub>L</sub> =0pF, R <sub>L</sub> =∞, Vdd=3.3 ± 0.3V, 3.0 ± 0.3V, 2.8 ± 0.2V, 2.5 ± 0.2V, 1.8 ± 0.15V)
Symmetry	45/55 % max.@ 1/2Vdd
Rise and fall time (Tr/Tf)	1.3ns typ, 2ns max. (+25°C, C <sub>L</sub> =15pF, 20/80% Vdd.)
Output load	15 pF max, 10 kohms min.
Output voltage:	VOH = 0.8* Vdd min. ; VOL = 0.2* Vdd max.
Input voltage:	VIH = 0.75* Vdd min. ; VIL = 0.25* Vdd max.
Start-up time	3.0ms typ, 10ms max.
Disable time	20ns typ, 100ns max.
Tri-State function (Stand-by)	"1" or open: Oscillation; "0" : No oscillation/Hi Z
Stand-by Current	1uA max. (T=+25° C, Vdd=3.3 ± 0.3V, 3.0 ± 0.3V, 2.8 ± 0.2V, 2.5 ± 0.2V, 1.8 ± 0.15V)
Aging at +25°C/year	± 5ppm max.
Jitter (Cycle to Cycle, reference only):	100MHz: 95 ps

### Absolute Maximum Ratings

Item	Min.	Max	Unit	Condition
Supply Voltage	-0.3	+4.0	V	
Input Voltage	-0.3	VDD+0.3	V	
Junction Temp	-	+150	°C	
Storage Temp	-55	+150	°C	
Soldering Temp	-	+260	°C	40 sec max.
ESD				
HBM	-	2000	V	
MM	-	200		
CDM	-	500		

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# ULTRA MINIATURE PLASTIC PACKAGE PURE SILICON™ CLOCK OSCILLATOR

ASFLM



Life Size



5.0 x 3.2 x 0.85mm

ASFLM



RoHS  
Compliant

## PART NUMBER FOR PROGRAMMED ORDERS

ASFLM□ - Frequency - □ - □ - □

Supply Voltage		Frequency e.g. 14.3181 MHz (Maximum 4 digits after decimal)	Operating Temp.		Freq. Stability		Packaging	
1	3.0 ± 0.3V			Blank	0°C to +70°C	Blank	± 100 ppm	Blank
2	3.3 ± 0.3V	E		-20°C to +70°C	C	± 50 ppm	T	Tape and Reel (1000pcs/reel)
3	2.5 ± 0.2V	L		-40°C to +85°C	R	± 25 ppm		
4	1.8 ± 0.15V							
5	2.8 ± 0.2V							

Please contact Abracon for order assistance for high shock application.

## PART NUMBER FOR UN-PROGRAMMED ORDERS

Blank un-programmed oscillators and our low cost portable programmer are available for quick turn engineering requirements. Please call ABRACON or visit our MEMSpeedPro site at <http://www.abracon.com/memspeedpro/memspeedpro.html> for more information.

ASFLM - BLANK - □□ - □

Operating Temp. Freq. Stability		Packaging	
EC	± 50 ppm / -20°C to +70°C	Blank	Tube (72pcs/tube)
ER	± 25 ppm / -20°C to +70°C	T	Tape and Reel (1000pcs/reel)
LC	± 50 ppm / -40°C to +85°C		
LR	± 25 ppm / -40°C to +85°C		

## MEMSPEED PRO™ Clock Oscillator Programmer

Our new MEMSpeed Pro Clock Oscillator Programmer allows you to program parts to any frequency between 1 and 150 Mhz in 1 second! Order online now at [www.abracon.com](http://www.abracon.com).



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ASFLM

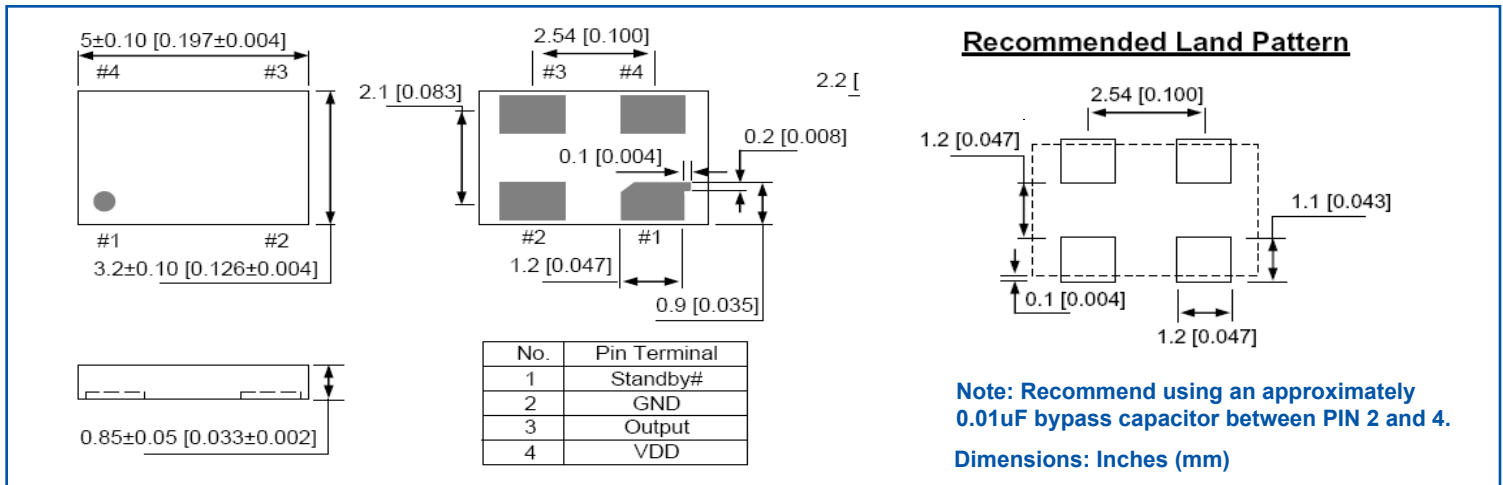


Life Size   
 5.0 x 3.2 x 0.85mm

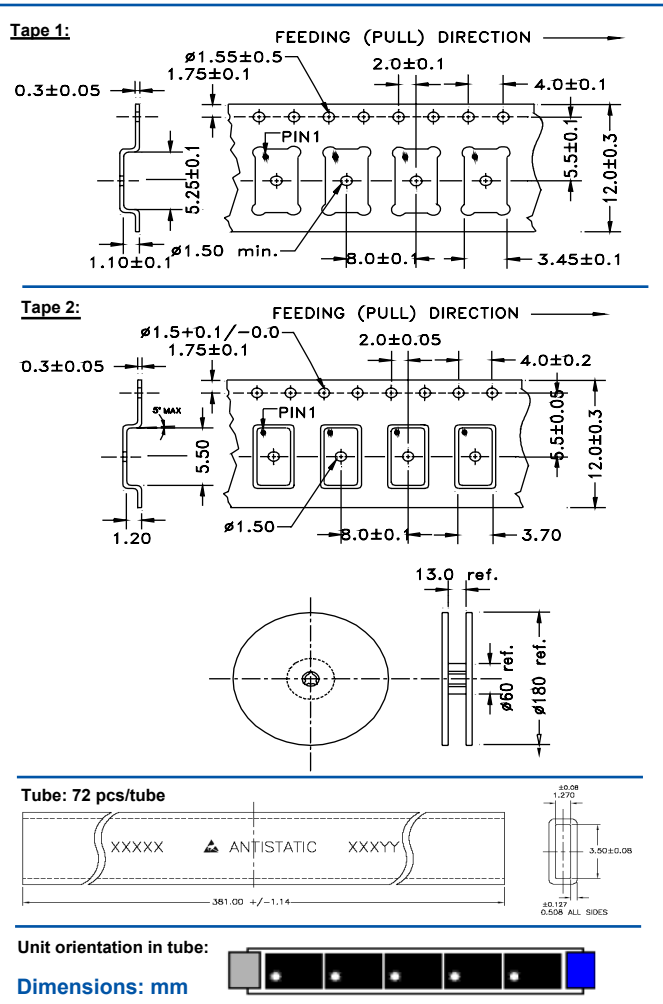
ASFLM



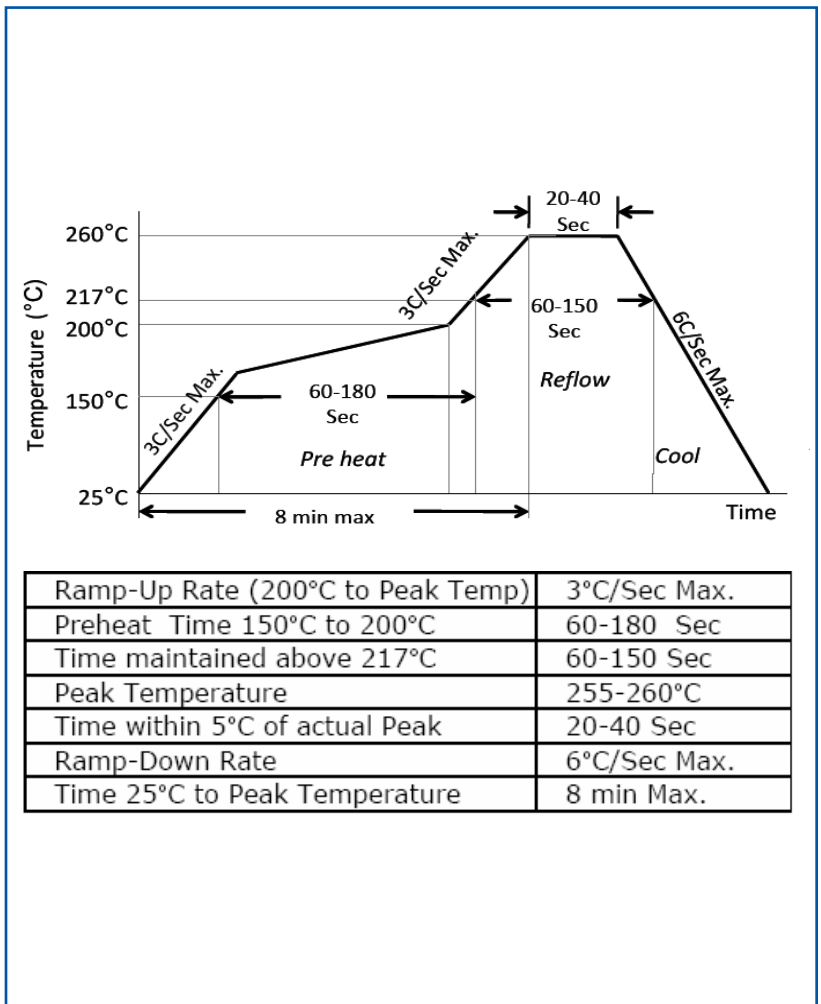
## OUTLINE DRAWING:



## TAPE & REEL:



## REFLOW PROFILE:



Need a test socket for the ASFLM Series? To view compatible **PRECISION TEST & BURN-IN SOCKETS** for these parts, [click here](#). P/N: AXS-5032-04-07

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30332 Esperanza, Rancho Santa Margarita, California 92688  
tel 949-546-8000 | fax 949-546-8001 | [www.abracon.com](http://www.abracon.com)

# PLASTIC PACKAGE PURE SILICON™ CLOCK OSCILLATOR

ASVM



7.0x 5.0 x 0.85 mm

ASVM



RoHS  
Compliant

## FEATURES:

- Pure Silicon™ Clock Oscillator
- MEMS Technology by Discera
- Low Power Consumption <10mA
- Low Stand by Current <1uA
- Exceptional Stability Over Temp. at 40 to +85°C
- Available over Extended Temp Range
- Available in 30kG Shock Resistance Configuration
- 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

**MEMSPEED PRO™**  
Clock Oscillator Programmer  
**AVAILABLE NOW!**

## STANDARD SPECIFICATIONS:

### PARAMETERS

ABRACON P/N	ASVM Series
Frequency range	1.000 MHz to 150 MHz
Operating temperature	0°C to + 70°C (see options)
Storage temperature:	-55° C to + 150 C
Overall Frequency Stability	± 100 ppm max. (see options)
Supply Voltage (Vdd)	See options
Supply Current (No Load)	3.0mA typ, 10.0mA max (1.0 to 39.9999MHz) 4.0mA typ, 10.0mA max (40.0 to 79.9999MHz) 5.0mA typ, 10.0mA max (80.0 to 124.9999MHz) 6.0mA typ, 10.0mA max (125.0 to 150MHz) (T=+25°C, C <sub>L</sub> =0pF, R <sub>L</sub> =∞, Vdd=3.3 ± 0.3V, 3.0 ± 0.3V, 2.8 ± 0.2V, 2.5 ± 0.2V, 1.8 ± 0.15V)
Symmetry	45/55 % max. @ 1/2Vdd
Rise and fall time (Tr/Tf)	1.3ns typ, 2ns max. (+25°C, C <sub>L</sub> =15pF, 20/80% Vdd.)
Output load	15 pF max, 10 kohms min.
Output voltage:	VOH = 0.8* Vdd min. ; VOL = 0.2* Vdd max.
Input voltage:	VIH = 0.75* Vdd min. ; VIL = 0.25* Vdd max.
Start-up time	3.0ms typ, 10ms max.
Disable time	20ns typ, 100ns max.
Tri-State function (Stand-by)	"1" or open: Oscillation; "0" : No oscillation/Hi Z
Stand-by Current	1uA max. (T=+25° C, Vdd=3.3 ± 0.3V, 3.0 ± 0.3V, 2.8 ± 0.2V, 2.5 ± 0.2V, 1.8 ± 0.15V)
Aging at +25°C/year	± 5ppm max.
Jitter (Cycle to Cycle, reference only):	100MHz: 95 ps

### Absolute Maximum Ratings

Item	Min.	Max	Unit	Condition
Supply Voltage	-0.3	+4.0	V	
Input Voltage	-0.3	VDD+0.3	V	
Junction Temp	-	+150	°C	
Storage Temp	-55	+150	°C	
Soldering Temp	-	+260	°C	40 sec max.
ESD				
HBM	-	2000	V	
MM	-	200		
CDM	-	500		

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## PART NUMBER FOR PROGRAMMED ORDERS

ASVM□ - Frequency - □ - □ - □

Supply Voltage		Frequency	Operating Temp.		Freq. Stability		Packaging	
1	3.3 ± 0.3V	e.g. 14.3181 MHz (Maximum 4 digits after decimal)	Blank	0°C to +70°C	Blank	± 100 ppm	Blank	Tube (50pcs/tube)
2	3.0 ± 0.3V		E	-20°C to +70°C	C	± 50 ppm	T	Tape and Reel (1000pcs/reel)
3	2.5 ± 0.2V		L	-40°C to +85°C	R	± 25 ppm		
4	1.8 ± 0.15V							
5	2.8 ± 0.2V							

Please contact Abracon for order assistance for high shock application.

## PART NUMBER FOR UN-PROGRAMMED ORDERS

Blank un-programmed oscillators and our low cost portable programmer are available for quick turn engineering requirements. Please call ABRACON or visit our MEMSpeedPro site at <http://www.abracon.com/memspeedpro/memspeedpro.html> for more information.

ASVM - BLANK - □□ - □

Operating Temp. Freq. Stability		Packaging	
EC	± 50 ppm / -20°C to +70°C	Blank	Tube (50pcs/tube)
ER	± 25 ppm / -20°C to +70°C	T	Tape and Reel (1000pcs/reel)
LC	± 50 ppm / -40°C to +85°C		
LR	± 25 ppm / -40°C to +85°C		

## MEMSPEED PRO™ Clock Oscillator Programmer

Our new MEMSpeed Pro Clock Oscillator Programmer allows you to program parts to any frequency between 1 and 150 Mhz in 1 second! Order online now at [www.abracon.com](http://www.abracon.com).



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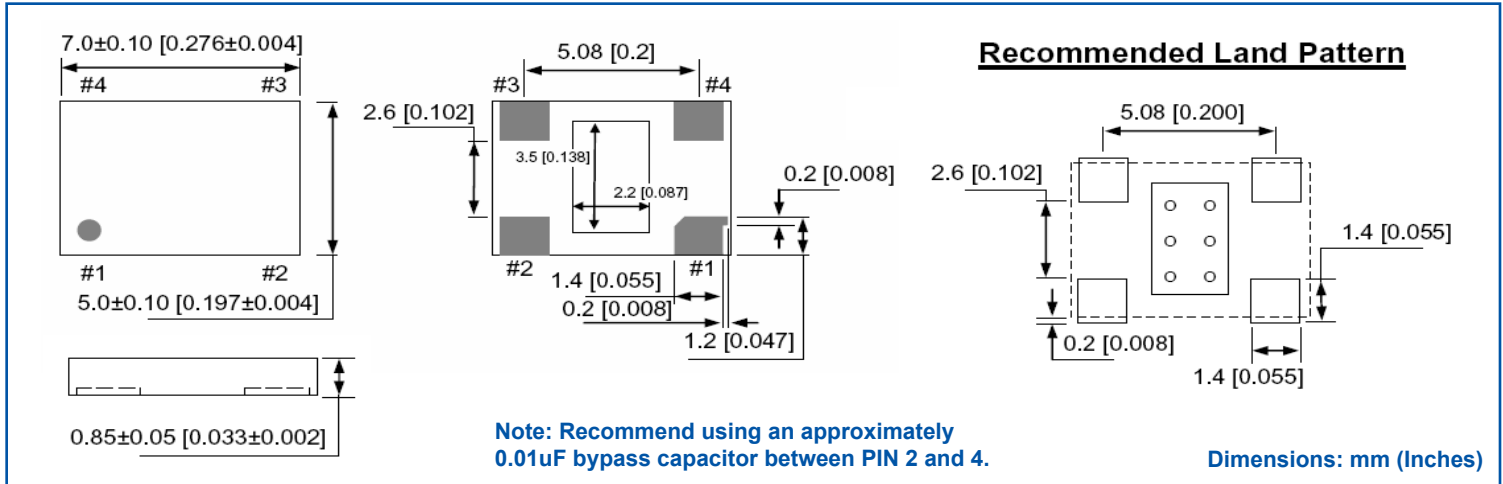
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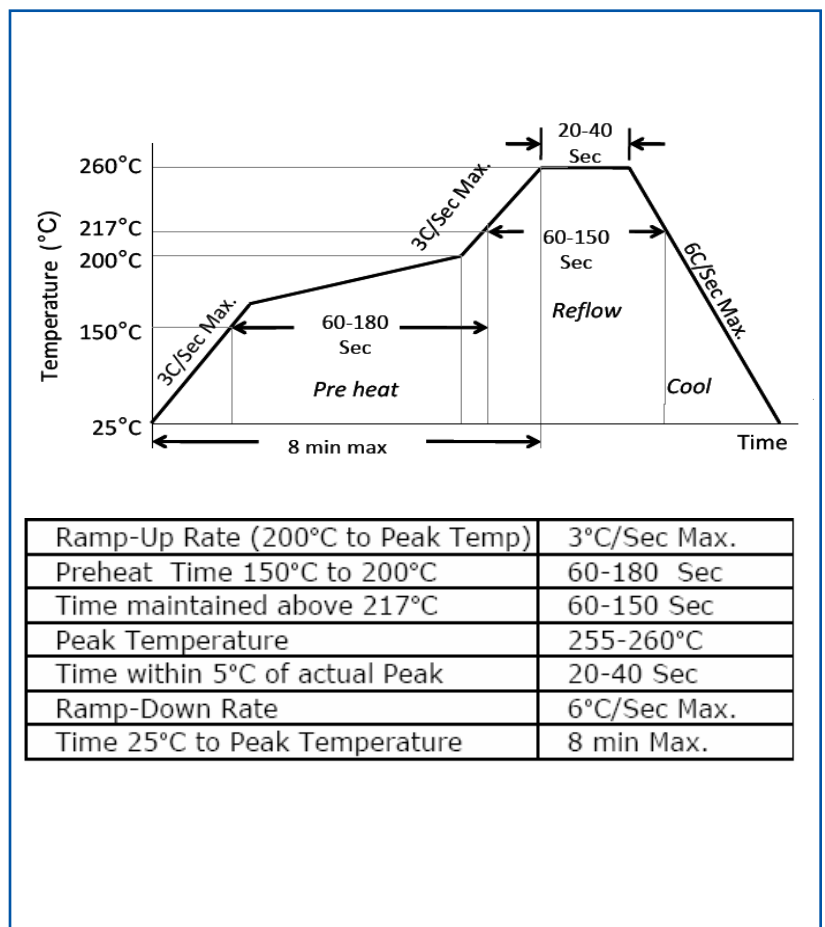
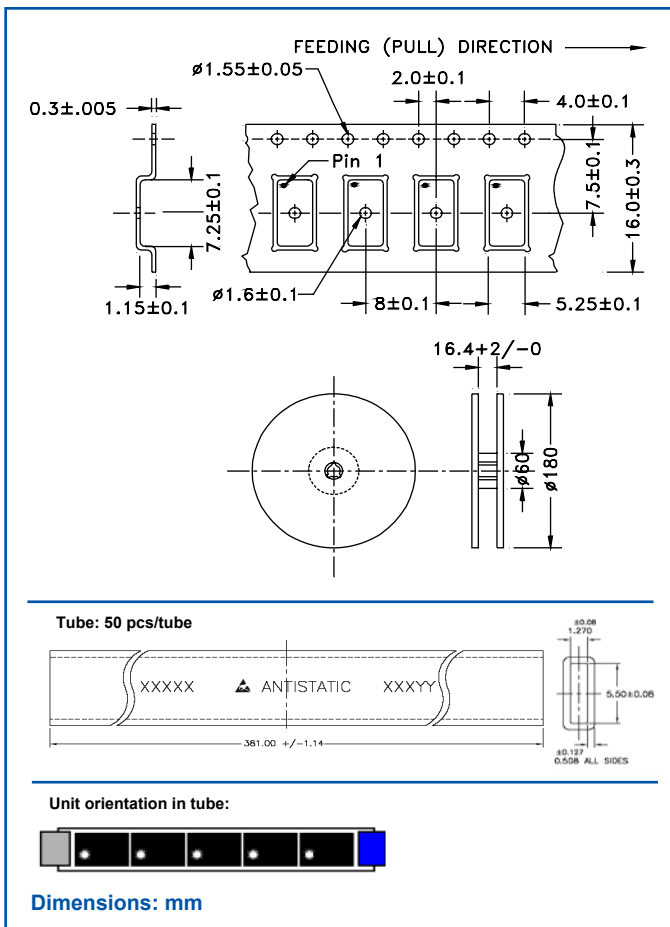


## OUTLINE DRAWING:



## TAPE & REEL:

## 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.

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