

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China







ACCELERATE THE SPEED OF CIRCUIT DESIGN...OSCILLATORS IN SECONDS,



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.

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31 Een 167 (110113	
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.











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!!!

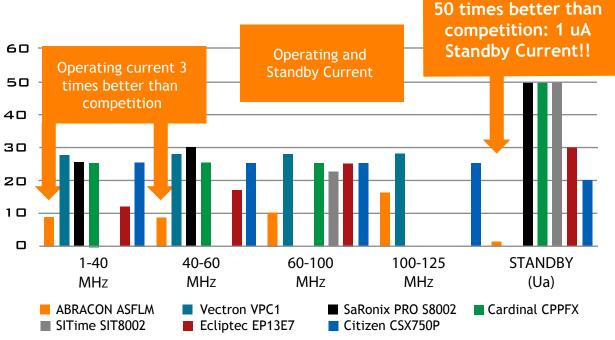
\$499 MEMSpeed Pro™Deluxe Kit includes:

- 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
- Ouickstart 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.



ASDM

ASDM

RoHS Compliant

Life Size ■■ 2.5 x 2.0 x 0.80 mm

> 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



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 Stablilty:	± 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 _L =0pF, R _L =∞, 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		





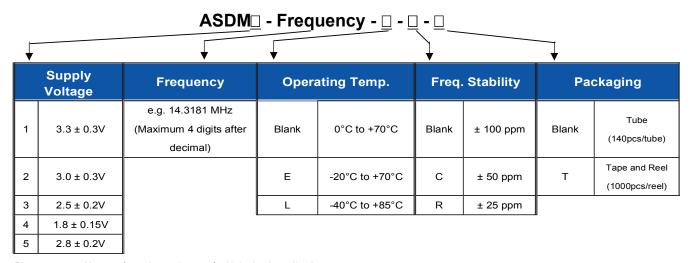
ASDM





> OPTIONS AND PART IDENTIFICATION:

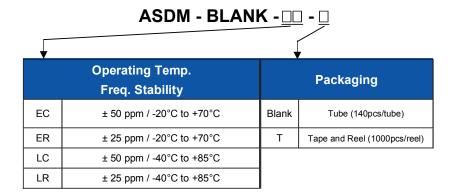
PART NUMBER FOR PROGRAMMED ORDERS



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.



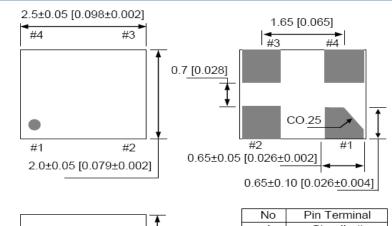


ASDM



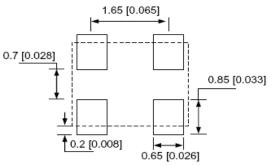


OUTLINE DRAWING:



No	Pin Terminal
1	Standby#
2	GND
3	Output
4	VDD

Recommended Land Pattern

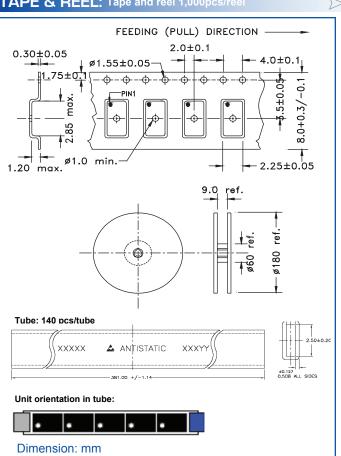


Note: Recommend using an approximately 0.01uF bypass capacitor between PIN 2 and 4.

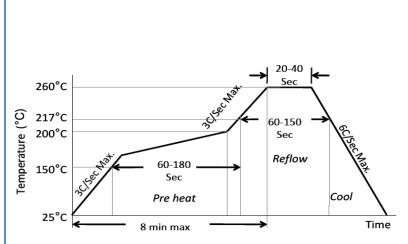
Dimension: mm (Inches)

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

0.85±0.05 [0.033±0.002]



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.



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.





ASEM

ASEM





> 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

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- Equipment Connected to PCs
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- · Lower Cost Crystal Oscillator Replacement
- · Computers and Peripherals
- Portable Electronics (MP3 Players, Games)
- · Consumer Electronics such as TV's, DVR's, etc.
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MEMSPEED PRO™ Clock Oscillator Programmer AVAILABLE NOW!

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 Stablilty:	± 100 ppm max. (see options)
Supply Voltage (Vdd):	See options
Supply Current	3.0mA typ, 10.0mA max (1.0 to 39.9999MHz)
(No Load)	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)
	$(T=+25^{\circ}C,C_L=0pF,R_L=\infty,Vdd=3.3\pm0.3V,3.0\pm0.3V,2.8\pm0.2V,2.5\pm0.2V,1.8\pm0.15V)$
Symmetry	45/55 % max.@ 1/2Vdd
Rise and fall time (Tr/Tf)	1.3ns typ, 2ns max. (+25°C, CL=15pF, 20/80% Vdd.)
Output load:	15 pF max, 10 k Ω 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. $(T=+25^{\circ} \text{ c, Vdd}=3.3\pm0.3\text{V, }3.0\pm0.3\text{V, }2.8\pm0.2\text{V, }2.5\pm0.2\text{V, }1.8\pm0.15\text{V})$
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		



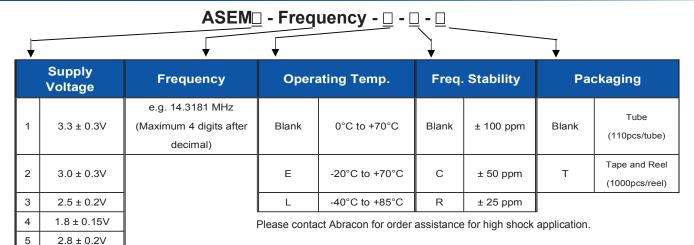


ASEM



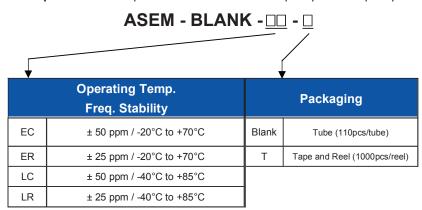


PART NUMBER FOR PROGRAMMED ORDERES



> 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.



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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.





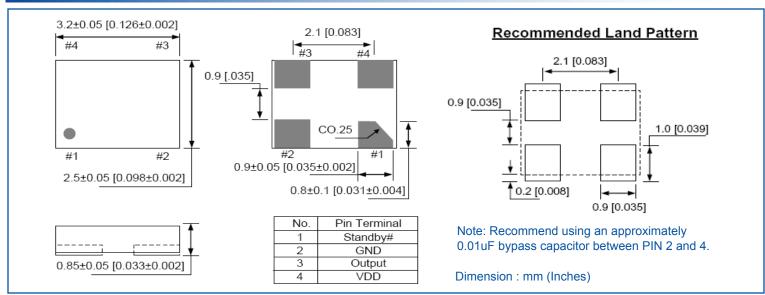


ASEM



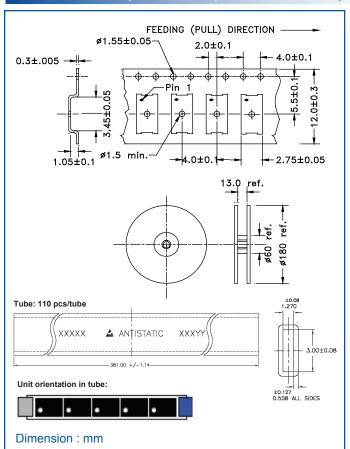


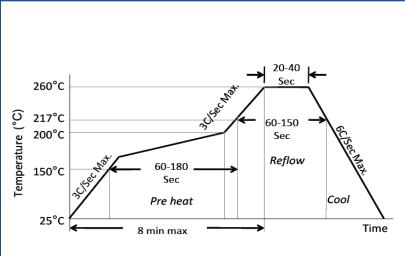
OUTLINE DRAWING:



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



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**

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.





ASFLM

Compliant



5.0 x 3.2 x 0.85mm

ASFLM



> FEATURES:

- Ultra Miniature Pure Silicon $^{\text{\tiny TM}}$ 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.
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- Demanding Military & Automotive Electronics



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 Stablilty	± 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 _L =0pF, R_L = ∞ , V dd=3.3 \pm 0.3 V , 3.0 \pm 0.3 V , 2.8 \pm 0.2 V , 2.5 \pm 0.2 V , 1.8 \pm 0.15 V)
Symmetry	45/55 % max.@ 1/2Vdd
Rise and fall time (Tr/Tf)	1.3ns typ, 2ns max. (+25°C, C _L =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		



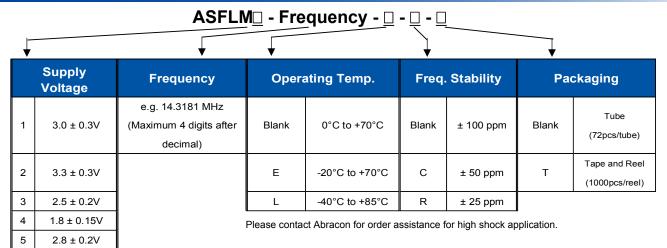


ASFLM



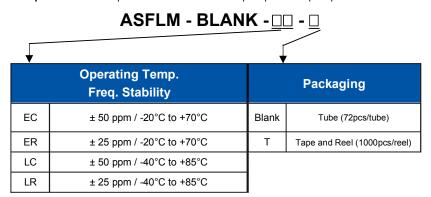


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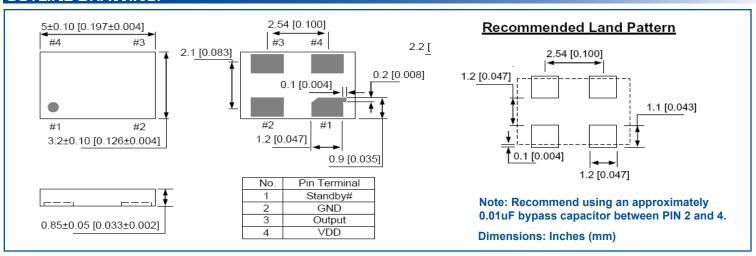


ASFLM



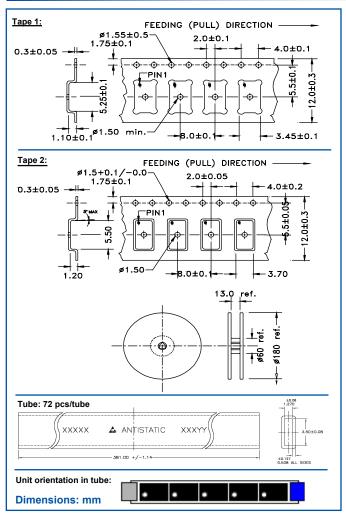


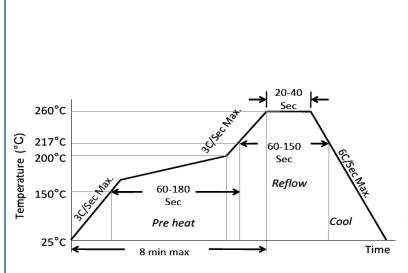
OUTLINE DRAWING:



> 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.



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**

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.





PLASTIC PACKAGE PURE SILICON™ CLOCK OSCILLATOR

ASVM

ASVM



7.0x 5.0 x 0.85 mm

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
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MEMSPEED PROCLOCK OSCILLATOR PROGRAMMER AVAILABLE NOW!

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 Stablilty	± 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 _L =0pF, $R_L=\infty$, 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 _L =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				
MM	-	200	· ·			
CDM		500				



PLASTIC PACKAGE PURE SILICON™ CLOCK OSCILLATOR

ASVM

5

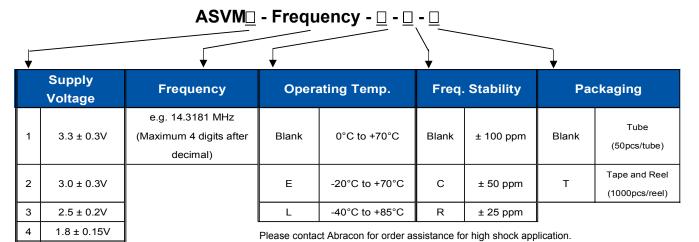
 $2.8 \pm 0.2V$





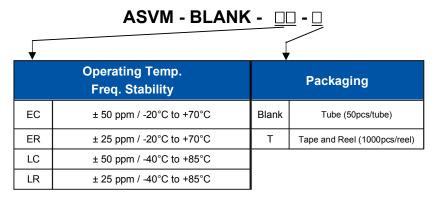
7.0x 5.0 x 0.85 mm

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Clock Oscillator Programmer

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PLASTIC PACKAGE PURE SILICON™ CLOCK OSCILLATOR

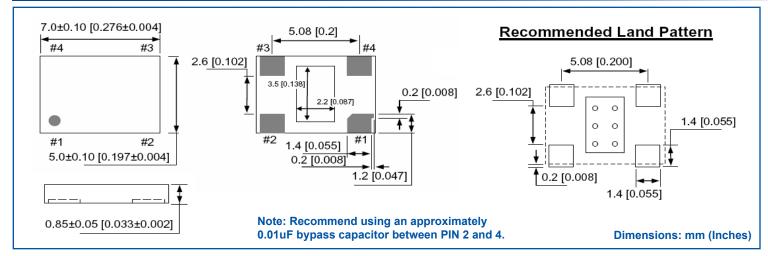
ASVM





7.0x 5.0 x 0.85 mm

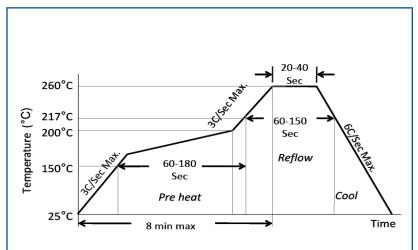
OUTLINE DRAWING:



> TAPE & REEL:

FEEDING (PULL) DIRECTION Ø1.55±0.05 2.0±0.1 Pin 1 FEEDING (PULL) DIRECTION 0.5±.005 1.15±0.1 FEEDING (PULL) DIRECTION 2.0±0.1 4.0±0.1 91.6±0.1 16.4+2/-0

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.

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.



