2.5V / 3.3Vdc PROGRAMMABLE SPREAD SPECTRUM LOW EMI CLOCK OSCILLATOR

ASSVP SERIES

ASSVP

7.0 x 5.0 x 1.4mm

Pb | **RoHS / RoHS II Compliant**

Moisture Sensitivity Level (MSL) – This product is Hermetically Sealed and not Moisture Sensitive - MSL = N/A: Not Applicable

▷ **FEATURES:**
- Spread Spectrum LOW EMI Oscillator
- 7.0 x 5.0 x 1.4mm Ceramic package
- Tri-state function
- Suitable for RoHS reflow profile
- Seam sealed ceramic package assures high reliability.

▷ **APPLICATIONS:**
- Laptop computer
- PDA
- LCD
- Digital camera
- Wireless LAN
- Mobile phone
- Printer
- Flat TV

Quick Turn Delivery! Days for small quantities!

▷ **STANDARD SPECIFICATIONS:**

Key Electrical Specifications (Die IC's Part Number PL671-00-A5)

Parameters		Minimum	Typical	Maximum	Units	Notes
Frequency Range:		10		160	MHz	
Spread Spectrum Type	Center Spread	±0.25 typ. ~ ±2.0 typ.			%	See table 3 for options
	Down Spread	-0.5 typ. ~ -4.0 typ.				
EMI Reduction (Reduction is applied to the entire frequency spectrum)	100MHz at C02	-7			dBc	Refer to the dB level when no modulation.
	100MHz at C04	-9				
Operating Temperature:		-40		+85	°C	See options
Storage Temperature:		-55		+125	°C	
Overall Frequency Stability*:		-50		+50	ppm	See options
Supply Voltage (Vdd):	V_{dd} = 3.3V	2.97	3.3	3.63	V	Standard
	V_{dd} = 2.5V	2.25	2.5	2.75	V	Option 1
Input Current:	13.000 to 49.999MHz		10	20	mA	V_{dd} = 2.5V
	50.000 to 79.999MHz		15	20		
	80.000 to 99.999MHz		20	25		
	100.0 to 160.0MHz		25	30		
	13.000 to 49.999MHz		15	20	mA	V_{dd} = 3.3V
	50.000 to 79.999MHz		20	25		
	80.000 to 99.999MHz		25	30		
	100.0 to 160.0MHz		30	40		
Symmetry:		45	50	55	%	@ 1/2Vdd, CL=15pF
Rise and Fall Time (Tr/Tf)**:	13.000 to 49.999MHz		2.0	5.0	ns	V_{dd} = 2.5V
	50.000 to 79.999MHz		2.0	4.0		
	80.000 to 99.999MHz		1.5	3.0		
	100.0 to 160.0MHz		1.5	3.0		
	13.000 to 49.999MHz		3.0	10.0	ns	V_{dd} = 3.3V
	50.000 to 79.999MHz		2.5	8.0		
	80.000 to 99.999MHz		2.0	5.0		
	100.0 to 160.0MHz		1.5	4.0		
Output Load:				15	pF	CMOS
Output Voltage:	VOH	0.9*Vdd			V	
	VOL			0.1*Vdd	V	
Start-up Time:			2.0	10.0	ms	
Tri-state function (Stand-by) :		"1" (VIH≥0.7*Vdd) or Open: Oscillation "0" (VIH<0.3*Vdd) : Hi Z				
Modulation carrier frequency (Dither rate)		Programmable dependant (30kHz to 40kHz)				
Aging:		-3.0		+3.0	ppm	@+25°C First year

* Frequency stability includes initial tolerance, temperature characteristics, load variation, and supply voltage variation,.

➤ **OPTIONS & PART IDENTIFICATION:**

(Left blank if standard)

ASSVP☐ - ☐☐   MHz - ☐ - ☐ - ☐

Supply Voltage
Blank: 3.3V±5%
1: 2.5V±5%

Frequency in MHz
Please specify the frequency in MHz. e.g. 14.31818MHz

Overall Freq. Stability
Blank: ±50ppm
R: ±25ppm

Contact Abracon for special tighter stability

SSBW
C☐☐ or D☐☐ See table below

SSBW: Spread Spectrum Band Width

Packaging
Blank: Bulk
T: Tape & Reel
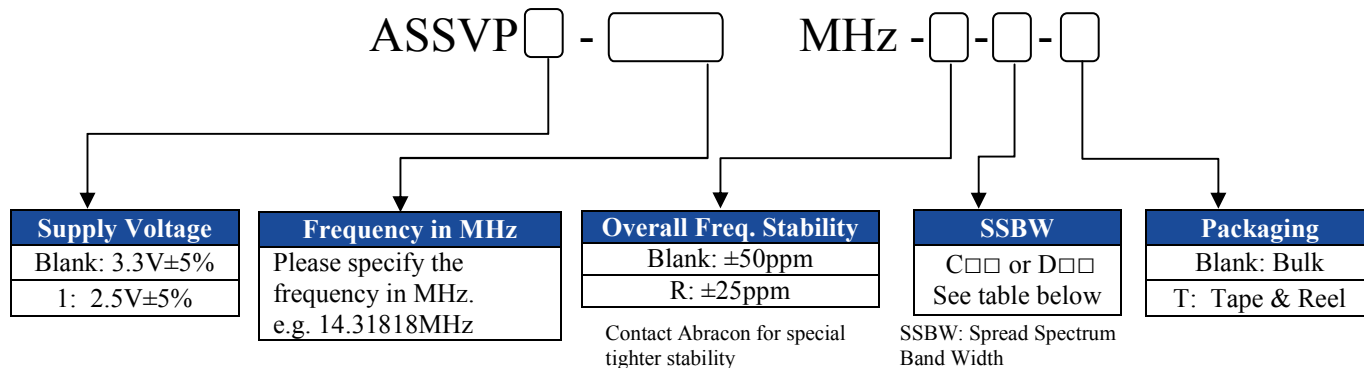
Table: SPREAD SPECTRUM BANDWIDTH SELECTION TABLE

SPREAD SPECTRUM BAND WIDTH OPTIONS *			
Center Spread (%)		**Down Spread (%)**	
C02	±0.250	D02	-0.50
C04	±0.50	D03	-0.75
C08	±1.000	D04	-1.00
C12	±1.500	D06	-1.50
C16	±2.000	D08	-2.00
		D12	-3.00
		D16	-4.00

Note *: All spectrum spread percentage numbers are typical values

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ABRACON LLC
The Power of Linking Together

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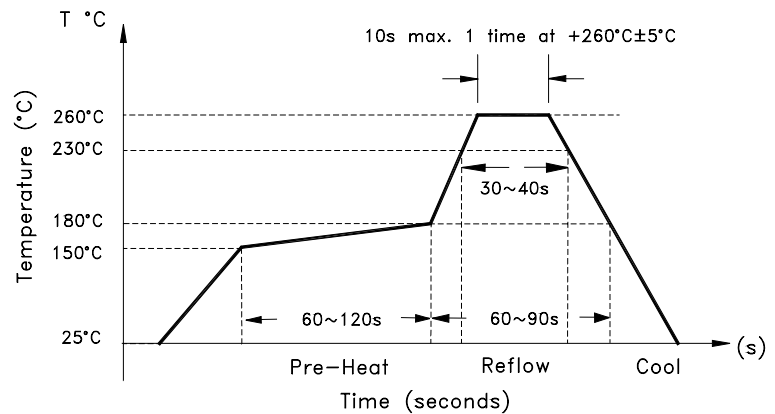7.0 x 5.0 x 1.4mm

▷ OUTLINE DRAWING:

4   3

0.2±0.04
(5.0±0.1)

1   2

0.275±0.004
(7.0±0.1)

0.055 max.
(1.4 max.)

0.2±.008
(5.08±0.2)

0.102±0.004
(2.6±0.1)

0.047
(1.2)

0.055   0.024
(1.4)   (0.6)

Bottom view
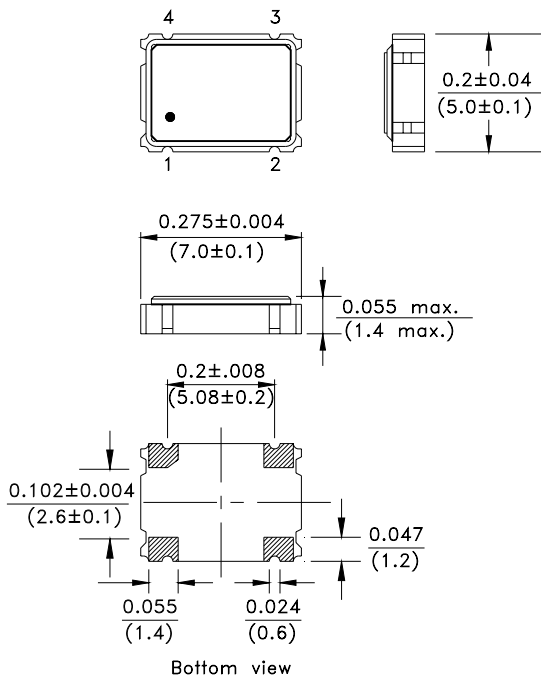
Recommended land pattern

0.20
(5.08)

0.157
(4.0)

0.079
(2.0)

0.071
(1.8)
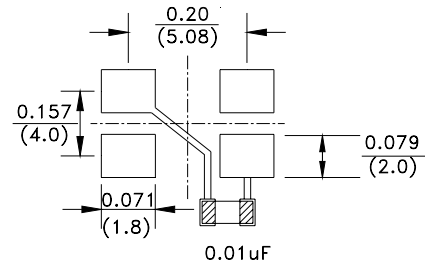
0.01uF

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

Pin	Function
1	Tri-State
2	GND/Case
3	Output
4	Vdd

Dimensions: Inches (mm)

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

FEEDING (PULL) DIRECTION

1.75±0.1   2.0±0.1
0.35±.005   Ø1.5   4.0±0.1

5° MAX

7.9±0.1

Pin 1

7.5±0.1

16.0±0.3

2.0±0.1   Ø1.7   8±0.1   5.4±0.1

17.5+2/−0
1.6

Ø13.0±0.5

2.5

Ø80±1

Ø180±1

120°   Ø21.0±1

▷ REFLOW PROFILE

T °C

10s max. 1 time at +260°C±5°C

260°C
230°C

30~40s

180°C
150°C

Temperature (°C)

60~120s   60~90s

25°C

(s)

Pre−Heat   Reflow   Cool

Time (seconds)
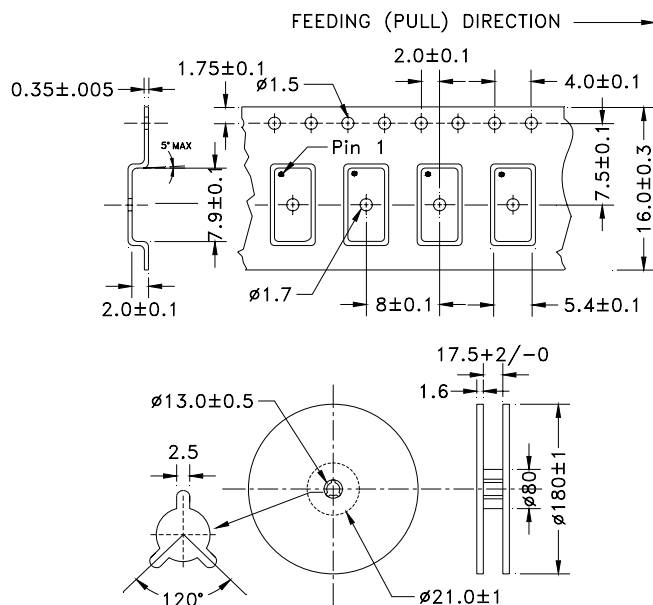
Need a test socket for the ASSVP Series?
To view compatible **PRECISION TEST and BURN-IN SOCKETS** for these parts, **click here.**

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  ASSVP1-FREQ-C16 ASSVP1-FREQ-C12 ASSVP-FREQ-R-C16 ASSVP-FREQ-R-C12 ASSVP1-FREQ-D02 ASSVP1-FREQ-D04 ASSVP-FREQ-D04 ASSVP-FREQ-D08 ASSVP1-FREQ-D03 ASSVP-FREQ-D16 ASSVP1-FREQ-D06 ASSVP1-FREQ-D08 ASSVP-FREQ-C12 ASSVP-FREQ-C16 ASSVP1-FREQ-R-C04 ASSVP1-FREQ-R-C02 ASSVP-FREQ-D12 ASSVP1-FREQ-R-C08 ASSVP-FREQ-R-D02 ASSVP-FREQ-D03 ASSVP-FREQ-R-D06 ASSVP1-FREQ-R-D04 ASSVP1-FREQ-R-D06 ASSVP-FREQ-R-D08 ASSVP1-FREQ-R-C16 ASSVP1-FREQ-R-C12 ASSVP1-FREQ-R-D02 ASSVP-FREQ-R-C04 ASSVP-FREQ-C04 ASSVP1-FREQ-R-D03 ASSVP-FREQ-C08 ASSVP-FREQ-C02 ASSVP1-FREQ-R-D08 ASSVP-FREQ-R-D03 ASSVP1-FREQ-D12 ASSVP-FREQ-R-D04 ASSVP1-FREQ-R-D12 ASSVP-FREQ-D06 ASSVP-FREQ-R-C08 ASSVP-FREQ-R-C02 ASSVP-FREQ-D02 ASSVP1-FREQ-R-D16 ASSVP1-FREQ-D16 ASSVP1-FREQ-C04 ASSVP1-FREQ-C08 ASSVP-FREQ-R-D16 ASSVP1-FREQ-C02 ASSVP-FREQ-R-D12 ASSVP-11.7846-C02 ASSVP-11.7846-R-C16 ASSVP-11.7846-C04 ASSVP-32.7680-C02 ASSVP-32.7680-C08 ASSVP-32.7680-C12 ASSVP-32.7680-C06 ASSVP-66.6660MHZ-D04-T