

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



7.0 x 5.0 x 1.4mm

**ASSVP SERIES**



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<br>(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 (V <sub>dd</sub> ):                                       | V <sub>dd</sub> = 3.3V | 2.97   | 3.3     | 3.63                | V     | Standard                                  |
|  | V <sub>dd</sub> = 2.5V | 2.25   | 2.5     | 2.75                | V     | Option 1                                  |
| Input Current:   | 13.000 to 49.999MHz    |  | 10      | 20                  | mA    | V <sub>dd</sub> = 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 <sub>dd</sub> = 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                  | %     | @ 1/2V <sub>dd</sub> , CL=15pF            |
| Rise and Fall Time (Tr/Tf)**:  | 13.000 to 49.999MHz    |  | 2.0     | 5.0                 | ns    | V <sub>dd</sub> = 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 <sub>dd</sub> = 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*V <sub>dd</sub>  |         |                     | V     |   |
|  | VOL                    |  |         | 0.1*V <sub>dd</sub> | V     |   |
| Start-up Time:   |                        |  | 2.0     | 10.0                | ms    |   |
| Tri-state function (Stand-by) :  |                        | "1" (VIH≥0.7*V <sub>dd</sub> ) or Open: Oscillation<br>"0" (VIH<0.3*V <sub>dd</sub> ) : Hi Z |         |                     |       |   |
| Modulation carrier frequency (Dither rate)                               |                        | Programmable dependant<br>( 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.

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ASSVP SERIES



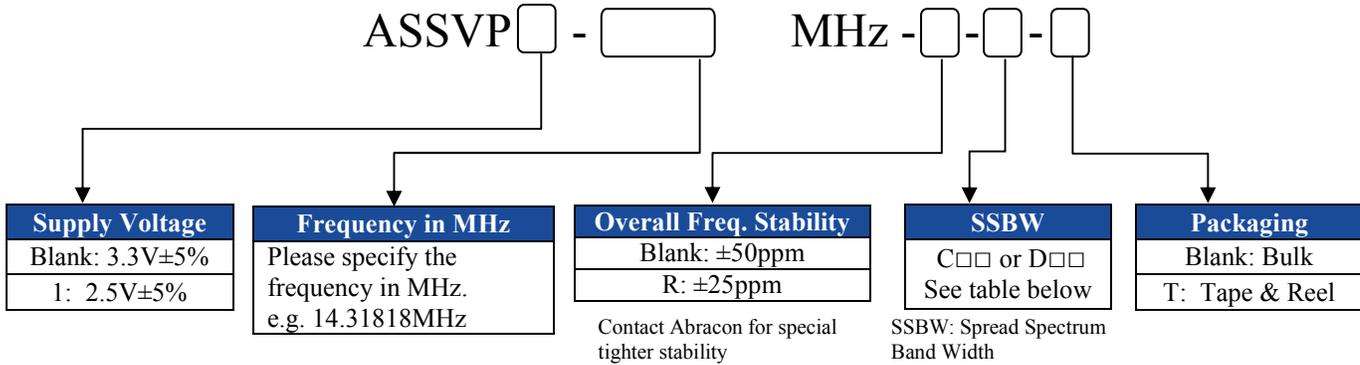
RoHS / RoHS II Compliant



7.0 x 5.0 x 1.4mm

## OPTIONS & PART IDENTIFICATION:

(Left blank if standard)



**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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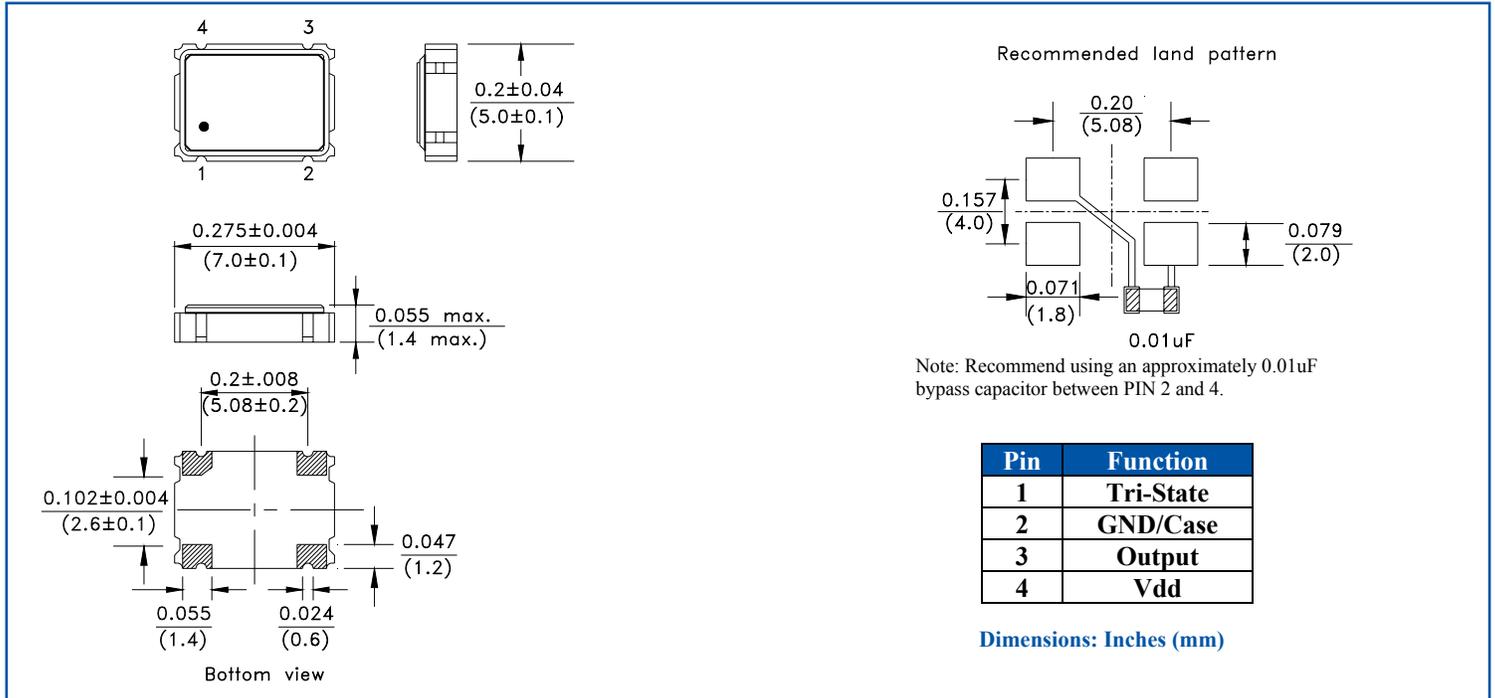
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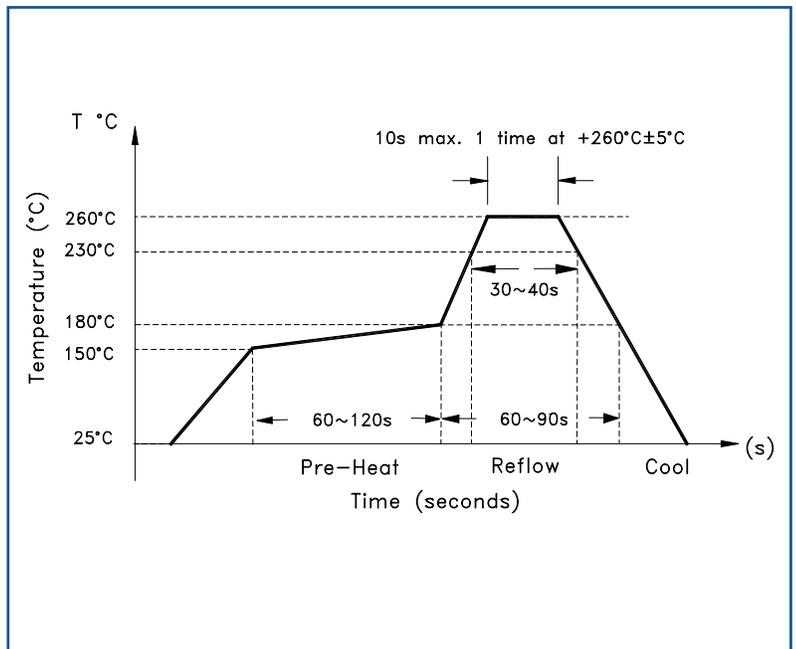
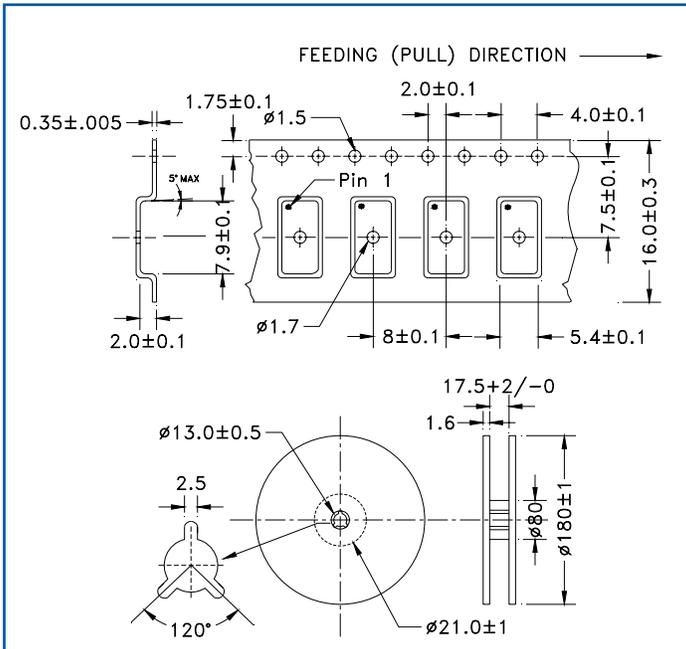
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## OUTLINE DRAWING:



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

## REFLOW PROFILE



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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