

# 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

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➤ **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 (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 "0" (VIH<0.3*V <sub>dd</sub> ) : 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.



2 Faraday, Suite# B | Irvine | CA 92618 **Revised: 04.28.15**  
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7.0 x 5.0 x 1.4mm

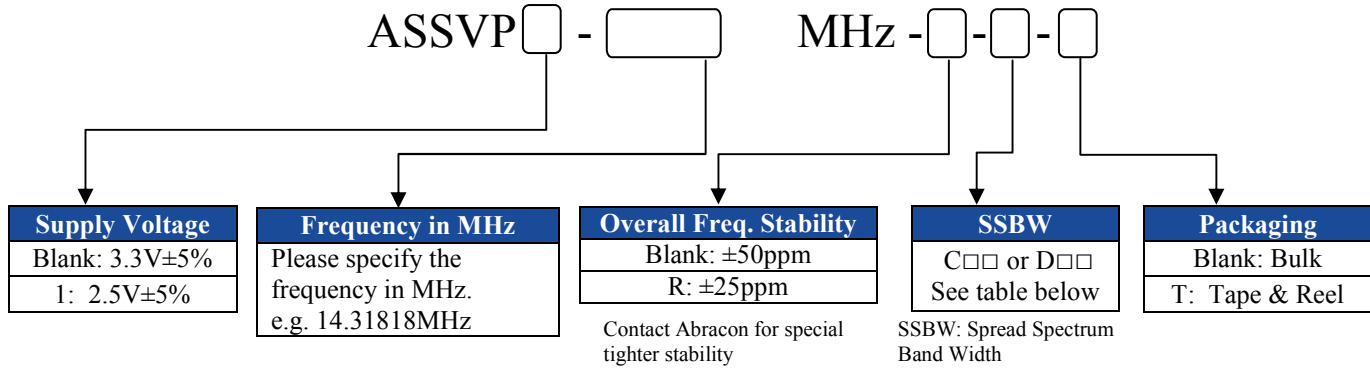
ASSVP SERIES



RoHS / RoHS II Compliant

## 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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## OUTLINE DRAWING:

Recommended land pattern

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

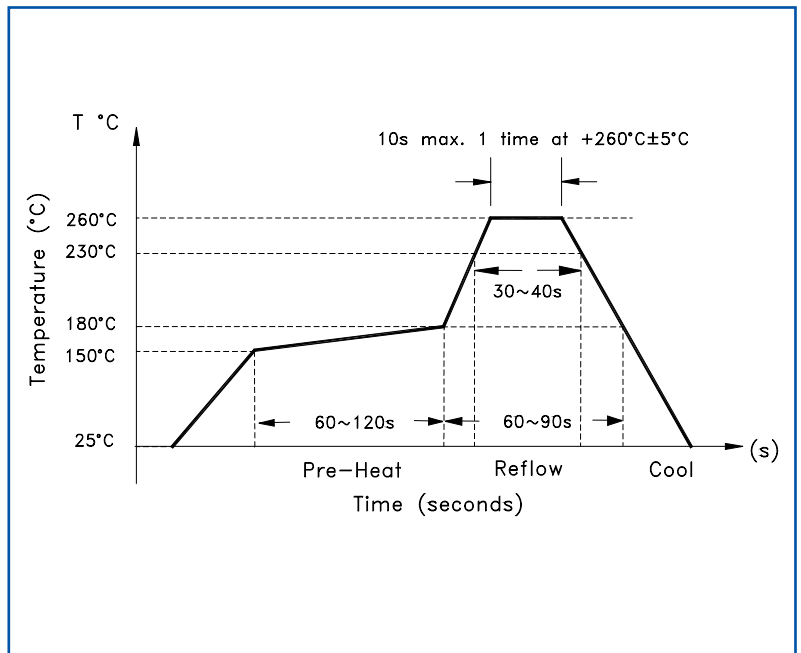
Pin	Function
1	Tri-State
2	GND/Case
3	Output
4	Vdd

Dimensions: Inches (mm)

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

## REFLOW PROFILE

FEEDING (PULL) DIRECTION →



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