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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!



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

# **ASSVP SERIES**





7.0 x 5.0 x 1.4mm

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 Prin
- Digital camera
- Wireless LANMobile 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 Down Spread		$\pm 0.25 \text{ typ.} \sim \pm 2.0 \text{ typ.}$ -0.5 typ. $\sim$ -4.0 typ.		%	See table 3 for options		
EMI Reduction (Reduction is applied to the entire frequency spectrum)		100MHz at C02	-7	<u></u>		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	7	$V_{\rm dd} = 3.3 \text{V}$	2.97	3.3	3.63	V	Standard
(Vdd):	7	$V_{\rm dd} = 2.5 \text{V}$	2.25	2.5	2.75	V	Option 1
	13.00	0 to 49.999MHz		10	20		$V_{dd} = 2.5V$
	50.00	0 to 79.999MHz		15	20	1 .	
		0 to 99.999MHz		20	25	mA	
•	100.	0 to 160.0MHz		25	30		
Input Current:		0 to 49.999MHz		15	20		
	50.000 to 79.999MHz			20	25	mA	$V_{dd} = 3.3V$
	80.000 to 99.999MHz			25	30		
		0 to 160.0MHz		30	40	1	
Symmetry:		45	50	55	%	@ 1/2Vdd, CL=15pF	
Symmetry.	13.00	0 to 49.999MHz		2.0	5.0	, ,	(a) 1/2 / uu, 02 10 pr
	50.000 to 79.999MHz 80.000 to 99.999MHz			2.0	4.0	ns	$V_{dd} = 2.5V$
Rise and Fall Time (Tr/Tf)**:				1.5	3.0		
		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		
		0 to 160.0MHz		1.5	4.0	1	
Output Load:			1.5	15	pF	CMOS	
•		VOH	0.9*Vdd		10	V	2.1100
Output Voltage:		VOL	0.5 Y dd		0.1*Vdd	V	
Start-up Time:			2.0	10.0	ms		
Tri-state function (Stand-by) :		"1" (VIH\ge 0.7*Vdd) or Open: Oscillation "0" (VIH\le 0.3*Vdd) : Hi Z			1113		
Modulation carrier frequency (Dither rate)		Programmable dependant (30kHz to 40kHz)					
Aging:			-3.0		+3.0	ppm	@+25°C First year

<sup>\*</sup> Frequency stability includes initial tolerance, temperature characteristics, load variation, and supply voltage variation,.



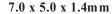


# 2.5V / 3.3Vdc PROGRAMMABLE SPREAD SPECTRUM LOW EMI CLOCK OSCILLATOR

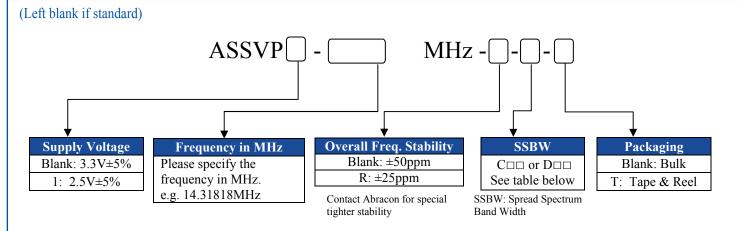












# Table: SPREAD SPECTRUM BANDWIDTH SELECTION TABLE

SPREAD SPECTRUM BAND WIDTH OPTIONS *					
Cente	r 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





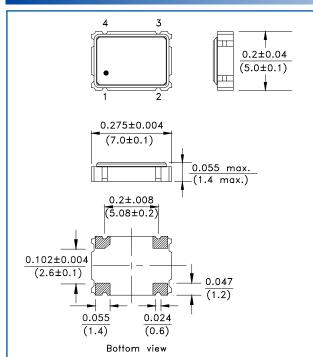
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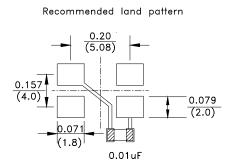
**ASSVP SERIES** 





**OUTLINE DRAWING:** 





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

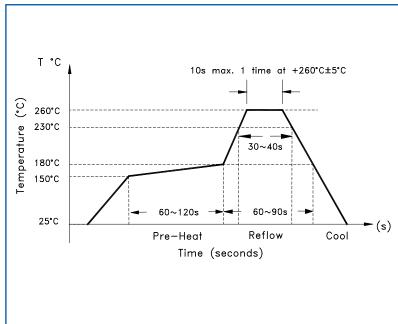
Pin	Function
1	Tri-State
2	GND/Case
3	Output
4	Vdd

**Dimensions: Inches (mm)** 

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

# FEEDING (PULL) DIRECTION —— 2.0±0.1 0.35±.005 —— 91.5 —— Pin 1 91.7 —— 91.7 —— 91.7 —— 91.7 —— 91.7 —— 91.7 —— 91.6 —— 91.7 —— 91.7 —— 91.8 —— 91.8 —— 91.9 ——

# **REFLOW PROFILE**





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