

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

ASSFLP SERIES



ESD Sensitive



RoHS / RoHS II Compliant



5.0 x 3.2 x 1.3 mm

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

FEATURES:

- Spread Spectrum LOW EMI Oscillator
- 5.0 x 3.2 x 1.3mm 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!
<5 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:		8		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	
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:	8.000 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		
	8.000 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)**:	8.000 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		
	8.000 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	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 (15kHz to 120kHz)				
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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LOW EMI CLOCK OSCILLATOR

ASSFLP SERIES



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5.0 x 3.2 x 1.3 mm

OPTIONS & PART IDENTIFICATION:

(Left blank if standard)

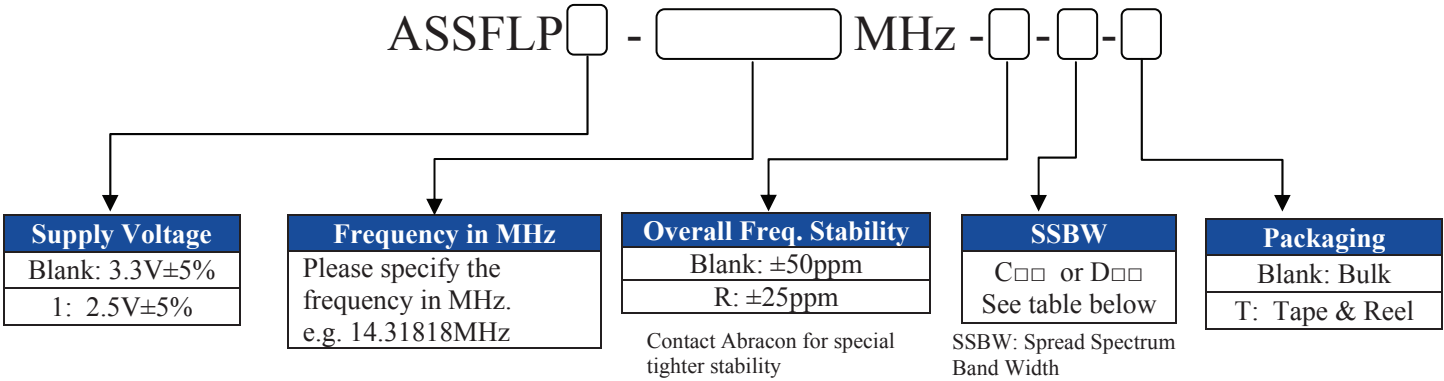


Table: SPREAD SPECTRUM BANDWIDTH SELECTION TABLE

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

5.0 x 3.2 x 1.3 mm

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Figure 1: Dimensions of the package. The figure consists of three views: a top view, a side view, and a bottom view. The top view shows a square package with dimensions 0.197±0.004 (5.0±0.1) mm for the width and 0.126±.004 (3.2±0.1) mm for the height. The side view shows a cross-section with a 'Metal Cap' on top and a 'Ceramic Base' below, with a total height of 0.051 max. (1.3 max.) mm. The bottom view shows a square package with dimensions 0.100±0.008 (2.54±0.20) mm for the width and 0.047±0.008 (1.2±0.2) mm for the height. The bottom view also shows four mounting pads labeled 1, 2, 3, and 4, with a reference dimension of 0.039 ref. (1.00 ref.) mm for the pad width and 0.047 ref. (1.20 ref.) mm for the pad spacing.

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

Dimensions: Inches (mm)

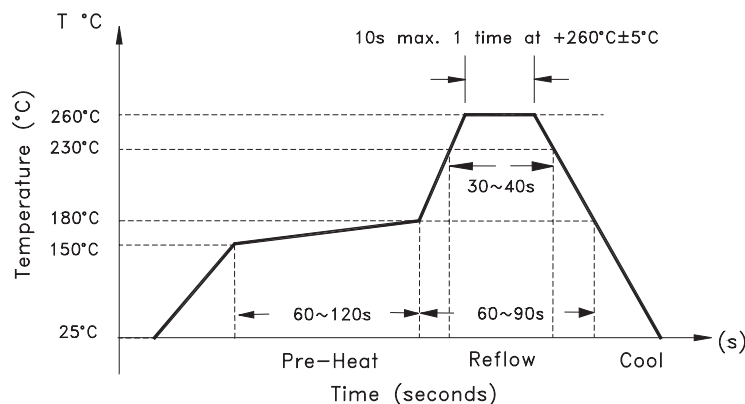
Technical drawing of a mechanical part, showing a side view and a cross-section.

Side View Dimensions:

- Overall length: 12.0 ± 0.3
- Overall width: 5.5 ± 0.1
- Top flange width: 4.0 ± 0.1
- Top flange thickness: 0.35
- Top flange hole diameter: $\phi 1.0 \pm 0.1 / -0.0$
- Top flange hole spacing: 1.25 ± 0.1
- Bottom flange width: 1.4 ± 0.1
- Bottom flange thickness: 5.4 ± 0.1
- Bottom flange hole diameter: $\phi 1.0 \pm 0.1 / -0.0$
- Bottom flange hole spacing: 8.0 ± 0.1
- Bottom flange hole diameter: $\phi 1.0 \pm 0.1 / -0.0$
- Bottom flange hole spacing: 3.6 ± 0.1
- Angle: 5° MAX
- Feeding (Pull) Direction: Indicated by an arrow pointing right.

Cross-Section Dimensions:

- Overall diameter: $\phi 21.0 \pm 1$
- Inner diameter: $\phi 13.0 \pm 0.5$
- Outer diameter: $\phi 17.8 \pm 1$
- Inner diameter: $\phi 8.0$
- Outer diameter: $\phi 12.4 \pm 2 / -0$
- Inner diameter: $\phi 2.0$
- Angle: 120°



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