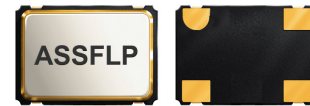


# 2.5V / 3.3Vdc PROGRAMMABLE SPREAD SPECTRUM LOW EMI CLOCK OSCILLATOR



5.0 x 3.2 x 1.3 mm

ASSFLP SERIES



## 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:

PARAMETERS	
ABRACON P/N	ASSFLP Series
Frequency range:	13.000000MHz - 160.000000MHz
Spread type (Typical):	Center Spread: $\pm 0.125\%$ to $\pm 2.00\%$ Down Spread: $-0.25\%$ to $-4.00\%$ (see Table 3 for options)
EMI reduction (Reduction is applied to the entire frequency spectrum)	-7dBc min. 100MHz at C02 -9dBc min. 100MHz at C04 -15dBc min. 100MHz at C12 With respect to the dB level when no modulation.
Operating temperature:	-40°C to + 85°C
Storage temperature:	-55°C to + 125°C
Frequency stability:	$\pm 50$ ppm (see options) *
Supply voltage (Vdd):	2.5 V $\pm 5\%$ , or 3.3 V $\pm 5\%$ (see options)
Start-up time:	2ms typ. 10ms max.
Rise time / fall time	See table 1 or 2 below
Load:	15pF max.
Current consumption:	See table 1 or 2 below
Duty cycle:	50% $\pm 5\%$ ( $C_L = 15$ pF at 50% $V_{DD}$ )
Output type:	CMOS
Aging (First year)	$\pm 3$ ppm max.; $T_a = +25^\circ\text{C}$
Output Voltage "High" ; "1":	2.0V min.; 3.2V typ (at 90% $V_{DD}$ )
Output Voltage "Low" ; "0":	0.8V max. ; 0.2V typ (at 10% $V_{DD}$ )
Modulation carrier frequency (Dither rate):	Programmable dependant ( 15kHz to 120kHz )
Tri-state function :	Logic "1" or open: Oscillation Logic "0" ( $V_{IL} < 0.8$ Vdc) : Hi Z

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

Table 1: 2.5V

Frequency	Current consumption (mA)		Tr/Tf (nsec)	
	Typical	Max	Typical	Max
13 to 49.99MHz	10	20	2.0	5.0
50 to 79.99MHz	15	20	2.0	4.0
80 to 99.99MHz	20	25	1.5	3.0
100 to 160MHz	25	30	1.5	3.0

Table 2: 3.3V

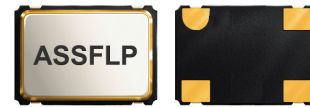
Frequency	Current consumption (mA)		Tr/Tf (nsec)	
	Typical	Max	Typical	Max
13 to 49.99MHz	15	20	3.0	10.0
50 to 79.99MHz	20	25	2.5	8.0
80 to 99.99MHz	25	30	2.0	5.0
100 to 160MHz	30	40	1.5	4.0

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

ASSFLP SERIES



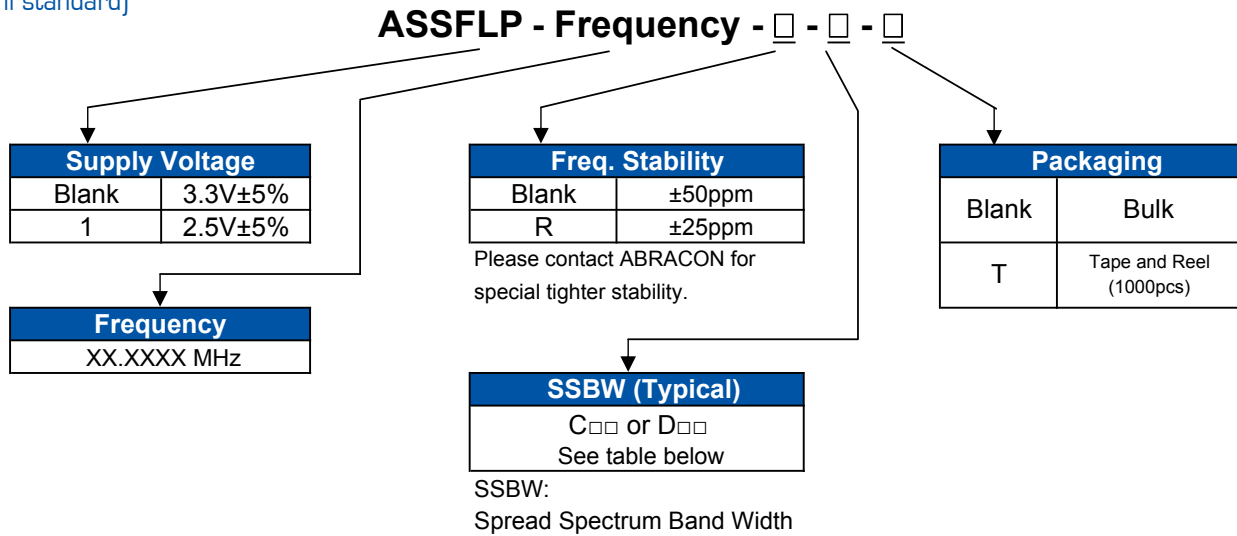
RoHS  
Compliant



5.0 x 3.2 x 1.3 mm

## OPTIONS & PART IDENTIFICATION:

(Left blank if standard)

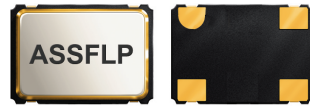


**Table 3: SPREAD SPECTRUM BANDWIDTH SELECTION TABLE**

SPREAD SPECTRUM BAND WIDTH OPTIONS			
Center Spread (%)		Down Spread (%)	
<b>C01</b>	±0.125	<b>D01</b>	-0.25
<b>C02</b>	±0.250	<b>D02</b>	-0.50
<b>C03</b>	±0.375	<b>D03</b>	-0.75
<b>C04</b>	±0.50	<b>D04</b>	-1.00
<b>C05</b>	±0.625	<b>D05</b>	-1.25
<b>C06</b>	±0.750	<b>D06</b>	-1.50
<b>C07</b>	±0.875	<b>D07</b>	-1.75
<b>C08</b>	±1.000	<b>D08</b>	-2.00
<b>C09</b>	±1.125	<b>D09</b>	-2.25
<b>C10</b>	±1.250	<b>D10</b>	-2.50
<b>C11</b>	±1.375	<b>D11</b>	-2.75
<b>C12</b>	±1.500	<b>D12</b>	-3.00
<b>C13</b>	±1.625	<b>D13</b>	-3.25
<b>C14</b>	±1.750	<b>D14</b>	-3.50
<b>C15</b>	±1.875	<b>D15</b>	-3.75
<b>C16</b>	±2.000	<b>D16</b>	-4.00

(Typical Value)

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

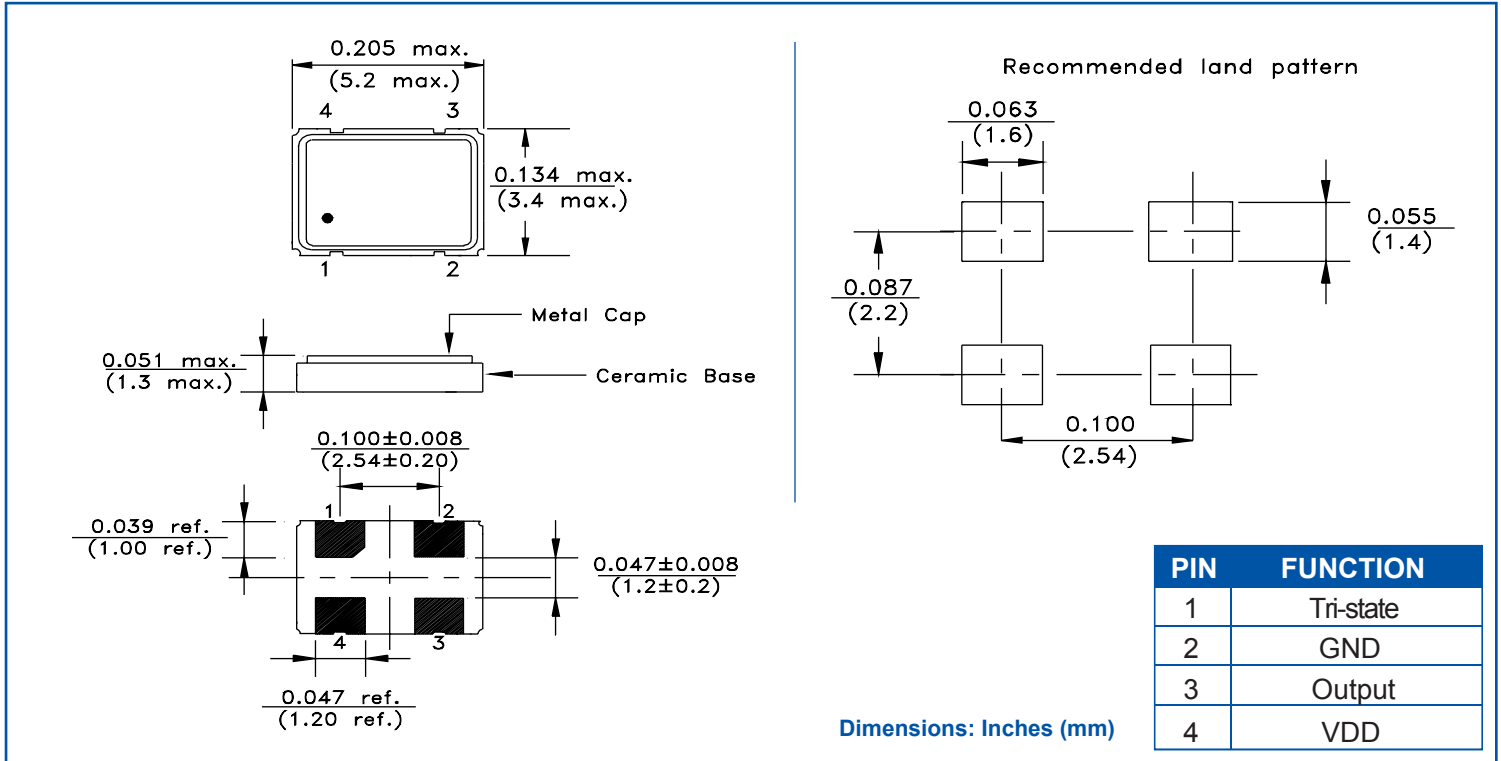


5.0 x 3.2 x 1.3 mm

ASSFLP SERIES

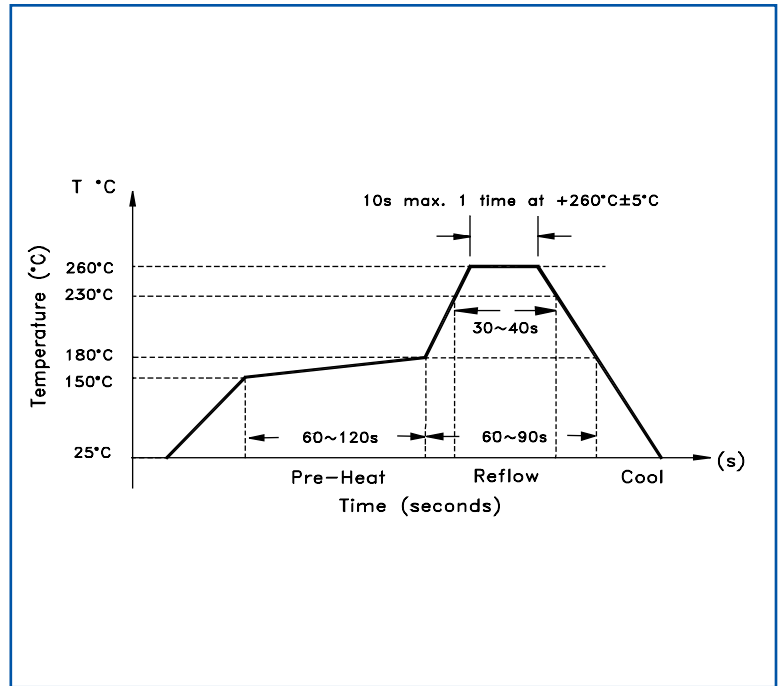
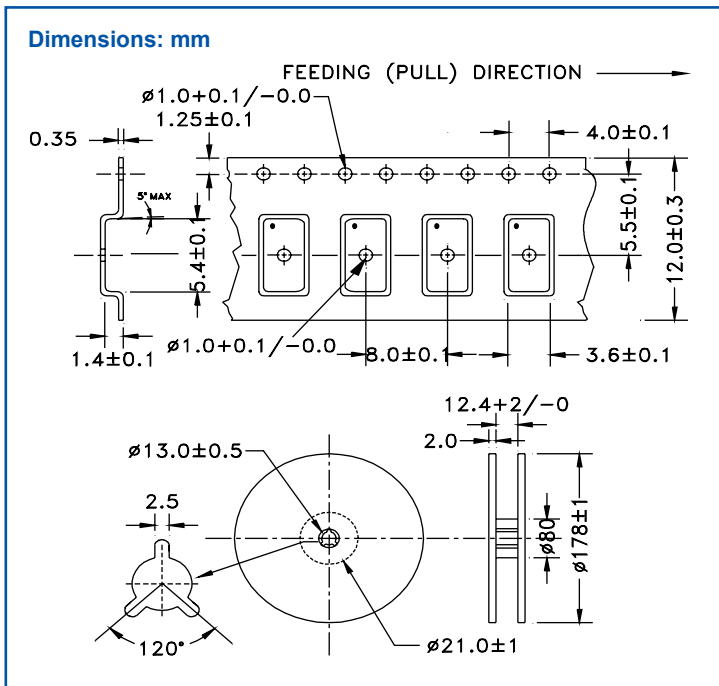


## OUTLINE DRAWING:



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

## REFLOW PROFILE



**ATTENTION:** Abracon Corporation's products are COTS – Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. Abracon's products are not specifically designed for Military, Aviation, Aerospace, Life-dependant Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from Abracon Corporation is required. Please contact Abracon Corporation for more information.

ABRACON IS  
ISO9001:2008  
CERTIFIED



Visit [www.abracon.com](http://www.abracon.com) for Terms & Conditions of Sale **Revised: 07.30.10**  
30332 Esperanza, Rancho Santa Margarita, California 92688  
tel 949-546-8000 | fax 949-546-8001 | [www.abracon.com](http://www.abracon.com)