

LOW EMI SPREAD SPECTRUM CRYSTAL CLOCK OSCILLATOR



14.27 x 10.7 x 5.3mm

ASSM/ASSML SERIES



RoHS
Compliant

FEATURES:

- Patented spread spectrum technology.
- Meets FCC and EMC Directive for EMI requirements.
- Standard TTL or HCMOS compatible output.
- Drop-in replacement for standard plastic SMD crystal oscillators
- Reduce electromagnetic emissions up to 20dB!

APPLICATIONS:

- Telecommunications.
- Capital equipment.
- Aerospace.
- Consumer electronics, printers.
- Medical equipment.

STANDARD SPECIFICATIONS:

ABRACON P/N: **ASSM-ASSML**
 Operating temperature: **0°C to +70°C (see options)**
 Storage temperature: **-65°C to +150°C**

Description	Parameter	Min	Max	Unit	
ASSML (3.3V) Operating Voltage +/-5%	V _{DD}	3.125	3.465	V	
ASSM (5V) Operating Voltage +/-5%	V _{DD}	4.750	5.250	V	
Frequency Range	F _O	4.000	128.000	MHz	
Output Low Voltage @ 4 mA	V _{OL1}	---	0.4	V	
Output Low Voltage @ 10 mA	V _{OL2}	---	1.2	V	
Output High Voltage @ 4 mA	V _{OH1}	2.4	---	V	
Output High Voltage @ 6 mA	V _{OH2}	2.0	---	V	
Output Load	CL	---	15	pF	
Rise Time	T _{R1}	2.0	5.0	ns	
Fall Time	T _{F1}	2.0	4.4	ns	
Output Clock Duty Cycle 4–8MHz	T _{DCOUT}	40	60	%	
Output Clock Duty Cycle 8MHz >	T _{DCOUT}	45	55	%	
Cycle-to-Cycle Jitter	F=4MHz	T _{CCJ1}	---	800	ps
	F=8MHz	T _{CCJ1}	---	450	ps
	F=16MHz	T _{CCJ2}	---	400	ps
	F=32MHz	T _{CCJ3}	---	380	ps
	F=64MHz	T _{CCJ4}	---	380	ps
	F=128MHz	T _{CCJ5}	---	380	ps

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➤ OPTIONS AND PART IDENTIFICATION (Left blank if standard)

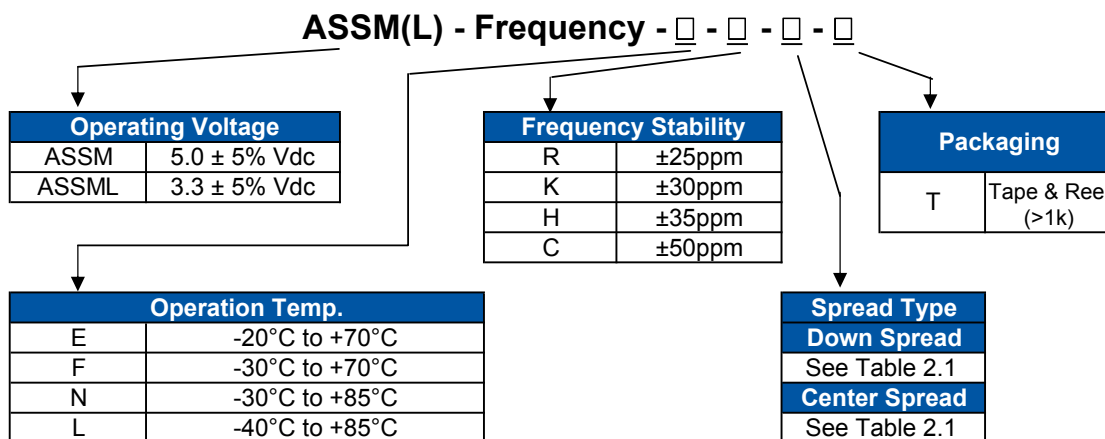


Table 2.1 BANDWIDTH SELECTION

(MHz)	Center Spread (%)		Down Spread (%)	
	C1	C3	D1	D3
4 - 5	±1.4	±0.5	-3	-1.9
5 - 6	±1.3	±0.4	-2.7	-1.7
6 - 7	±1.2	±0.4	-2.5	-1.5
7 - 8	±1.1	±0.3	-2.3	-1.4
8 - 10	±1.4	±0.5	-3	-1.9
10 - 12	±1.3	±0.4	-2.7	-1.7
12 - 14	±1.2	±0.4	-2.5	-1.5
14 - 16	±1.1	±0.3	-2.3	-1.4
16 - 20	±1.4	±0.5	-3	-1.9
20 - 24	±1.3	±0.4	-2.7	-1.7
24 - 28	±1.2	±0.4	-2.5	-1.5
28 - 32	±1.1	±0.3	-2.3	-1.4
32 - 40	±1.4	±0.5	-3	-1.9
40 - 48	±1.3	±0.4	-2.7	-1.7
48 - 56	±1.2	±0.4	-2.5	-1.5
56 - 64	±1.1	±0.3	-2.3	-1.4
64 - 80	±1.4	±0.5	-3	-1.9
80 - 96	±1.3	±0.4	-2.7	-1.7
96 - 112	±1.2	±0.4	-2.5	-1.5
112 - 128	±1.1	±0.3	-2.3	-1.4

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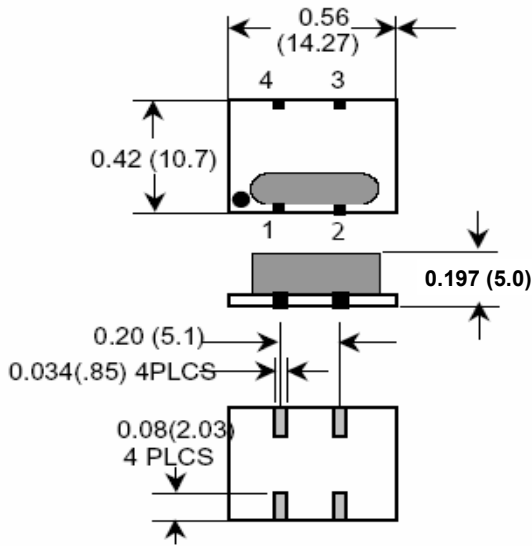


14.27 x 10.7 x 5.3mm

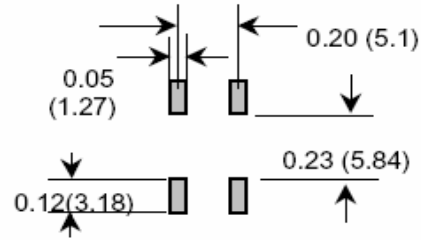
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OUTLINE DIMENSIONS



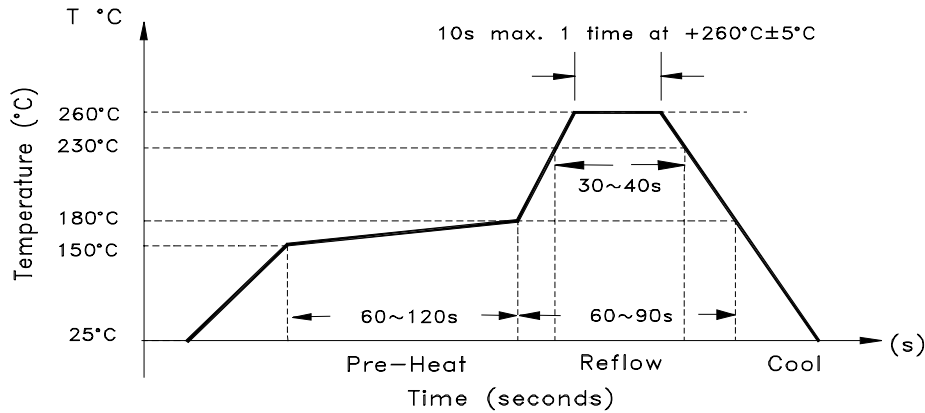
Recommended Land Pattern



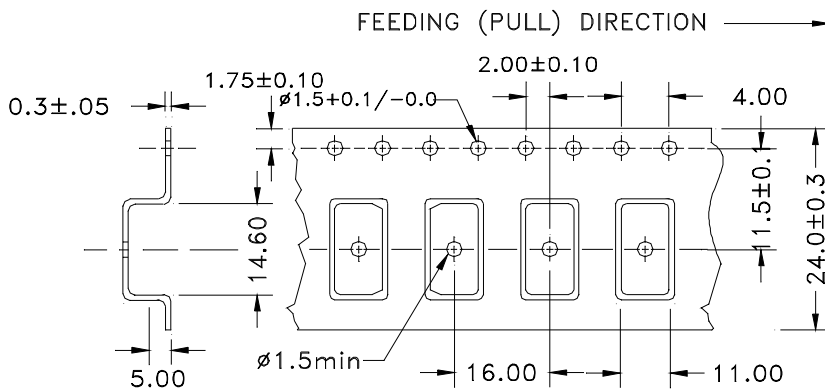
PIN NO.	FUNCTION
1	NC
2	GND
3	Output
4	Vdd

Dimension : Inches (mm)

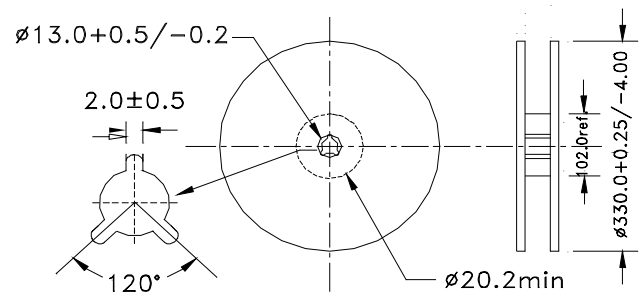
REFLOW PROFILE



PACKING: T= tape and reel (1,000pcs/reel)



Dimension : mm



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