LOW EMI SPREAD SPECTRUM CRYSTAL CLOCK OSCILLATOR

ASSM/ASSML SERIES

***RoHS COMPLIANT**

14.27 x 10.7 x 5.3mm

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!

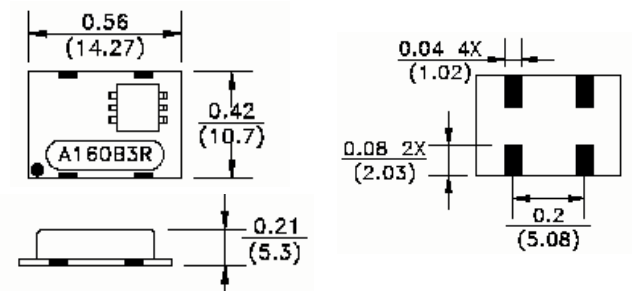
APPLICATIONS:

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

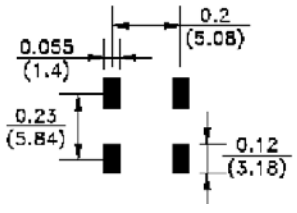
STANDARD SPECIFICATIONS:

PARAMETERS	ASSM	ASSML	CONDITIONS
Frequency Range (Fo)	3.500MHz ~ 128.000MHz		
Operating Temperature (Topr)	-40°C to +85°C (See Ordering Options)		
Storage Temperature (Tsto)	-65°C to +150°C		
Frequency Stability vs. Temp (dF/Fo)	± 100 ppm max. (See Ordering Options)		
Operating Supply Voltage (VDC)	5.0 Vdc	3.3 Vdc	± 5%
Operating Input Current (IDD)	30 mA max.		
duty Cycle	45/55		% max.
Rise time	5.0 nS	3.5 nS	15 pF
Full time	5.0 nS	3.5 nS	15 pF
Output Voltage (VOH/VOL)	3.0 Vdc min. / 0.4 Vdc max.		+25°C
Start Up Time	10 mS max. / 3 mS typ.		
Aging	± 5 ppm max. / year		
Jitter (CCJ1)	625 pS typ.		F = 4 MHz
Jitter (CCJ2)	225 pS typ.		F = 8 MHz
Jitter (CCJ3)	125 pS typ.		F = 32 MHz
Jitter (CCJ4)	135 pS typ.		F = 64 MHz
Jitter (CCJ5)	180 pS typ.		F = 128 MHz
Output Load	10 - LS TTL or 15 pF		
Bandwidth Accuracy	± 10 %		

OUTLINE DRAWING:



Recommended Land Pattern



PIN	FUNCTION
1	Input
2	Input-GND
3	GND
4	Output
5	Output

ABRACON CORPORATION

30332 Esperanza, Rancho Santa Margarita, California 92688
tel 949-546-8000 | fax 949-546-8001 | www.abracon.com

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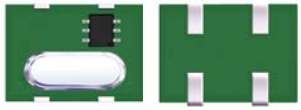

14.27 x 10.7 x 5.3mm

OPTIONS AND PART IDENTIFICATION (Left blank if standard):

ASSM(L) - Frequency - Temperature - Frequency Stability - Bandwidth - Packaging

Operating Voltage:
- ASSML = 3.3 ± 5 % Vdc
- ASSM = 5.0 ± 5 % Vdc

Temperature options:
- **E** for -20°C to +70°C
- **F** for -30°C to +70°C
- **N** for -30°C to +85°C
- **L** for -40°C to +85°C

Frequency stability option:
- **R** for ± 25 ppm max.
- **K** for ± 30 ppm max.
- **H** for ± 35 ppm max.
- **C** for ± 50 ppm max.

Bandwidth option:
- **CX** = Center Spread
- **DX** = Down Spread

(See table above for selection options)

Packaging option:
- **T** for Tape and Reel

* Example: ASSM-48.000-E-C-C1-T would be the part number for a 48.000MHz, ±1.2% certer spread with a ± 50 ppm center frequency accuracy.

FACTORY BANDWIDTH SELECTION:

FREQ. (MHz)	CENTER SPREAD (%)				DOWN SPREAD (%)				(KHz)
Order Options	C1	C2	C3	C4	D1	D2	D3	D4	
4 - 5	± 1.4	± 1.2	± 0.6	± 0.5	-3.0	-2.2	-1.9	-0.7	31.25 - 39.06
5 - 6	± 1.3	± 1.1	± 0.5	± 0.4	-2.7	-1.9	-1.7	-0.6	39.06 - 46.88
6 - 7	± 1.2	± 0.9	± 0.5	± 0.4	-2.5	-1.8	-1.5	-0.6	46.88 - 54.69
7 - 8	± 1.1	± 0.9	± 0.4	± 0.3	-2.3	-1.7	-1.4	-0.5	54.69 - 62.50
8 - 10	± 1.4	± 1.2	± 0.6	± 0.5	-3.0	-2.2	-1.9	-0.7	31.25 - 39.06
10 - 12	± 1.3	± 1.1	± 0.5	± 0.4	-2.7	-1.9	-1.7	-0.6	39.06 - 46.88
12 - 14	± 1.2	± 0.9	± 0.5	± 0.4	-2.5	-1.8	-1.5	-0.6	46.88 - 54.69
14 - 16	± 1.1	± 0.9	± 0.4	± 0.3	-2.3	-1.7	-1.4	-0.5	54.69 - 62.50
16 - 20	± 1.4	± 1.2	± 0.6	± 0.5	-3.0	-2.2	-1.9	-0.7	31.25 - 39.06
20 - 24	± 1.3	± 1.1	± 0.5	± 0.4	-2.7	-1.9	-1.7	-0.6	39.06 - 46.88
24 - 28	± 1.2	± 0.9	± 0.5	± 0.4	-2.5	-1.8	-1.5	-0.6	46.88 - 54.69
28 - 32	± 1.1	± 0.9	± 0.4	± 0.3	-2.3	-1.7	-1.4	-0.5	54.69 - 62.50
32 - 40	± 1.4	± 1.2	± 0.6	± 0.5	-3.0	-2.2	-1.9	-0.7	31.25 - 39.06
40 - 48	± 1.3	± 1.1	± 0.5	± 0.4	-2.7	-1.9	-1.7	-0.6	39.06 - 46.88
48 - 56	± 1.2	± 0.9	± 0.5	± 0.4	-2.5	-1.8	-1.5	-0.6	46.88 - 54.69
56 - 64	± 1.1	± 0.9	± 0.4	± 0.3	-2.3	-1.7	-1.4	-0.5	54.69 - 62.50
64 - 80	± 1.4	± 1.2	± 0.6	± 0.5	-3.0	-2.2	-1.9	-0.7	31.25 - 39.06
80 - 96	± 1.3	± 1.1	± 0.5	± 0.4	-2.7	-1.9	-1.7	-0.6	39.06 - 46.88
96 - 112	± 1.2	± 0.9	± 0.5	± 0.4	-2.5	-1.8	-1.5	-0.6	46.88 - 54.69
112 - 128	± 1.1	± 0.9	± 0.4	± 0.3	-2.3	-1.7	-1.4	-0.5	54.69 - 62.50

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