LSM Series Oscillators

Low Power - Low Frequency SMD Oscillator

- **Low current consumption, low frequency from 700kHz**
- **Low profile, miniature SMD package**
- **Full military testing available**
- **Testing to MIL-PRF-55310 available**

RoHS COMPLIANT 2002 / 95 /EC

DESCRIPTION

LSM series oscillators are precision surface mount oscillators with a frequency range from 700kHz to 2.1MHz. The part comprises of a hermetically sealed crystal with a hybrid circuit sealed in a ceramic package with a Kovar lid. Full MIL testing is available.

SPECIFICATION

Frequency Range:	700kHz to 2.1MHz
	2.0MHz standard****
Supply Voltage*:	3.3 or 5.0 Volts ±10%
Calibration Tolerance**	
Code A:	±0.01% (±100ppm)
Code B:	±0.03%
Code C:	±0.1%
Frequency Stability***	
0° to +70°C:	-0.12% typical
	-0.017% maximum
Voltage Coefficient:	±5ppm/V maximum
Ageing:	±10ppm/year maximum
Shock:	750g, 0.3ms, ½ sine, ±3ppm max.
Vibration:	10g rms, 10-2000Hz, ±3ppm max.
Frequency Change vs. 10% Output Load Change:	±1ppm maximum
Operating Temperature:	-10° to +70°C Commercial
	-40° to +85°C Industrial
	-55° to +125°C Military
Output Voltage (5.0V supply)	
HIGH:	4.8V minimum, 4.95V typical
LOW:	0.2V maximum, 0.05V typical
Rise/Fall Times:	12ns typical
Symmetry:	40/60% maximum, 45/55% typical
Supply Current	
5.0V supply:	400 µA max., 300 µA typical
3.3V supply:	300 µA max., 200 µA typical
Packaging:	Tray pack (standard)
	16mm tape, 17.8cm or 33cm reels
Start-up Time:	20ms typical

Notes:

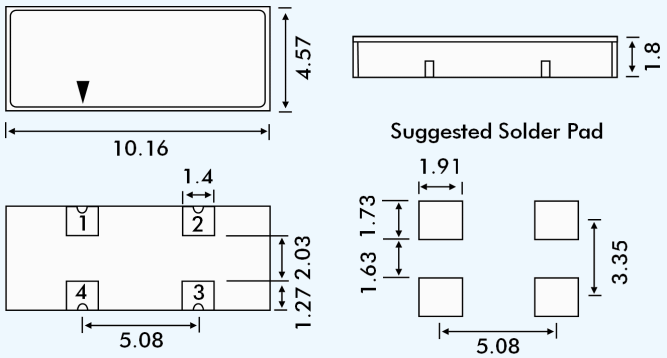
* *Contact factory for lower supply voltages*

** *Tighter tolerances available*

*** *Does not include calibration tolerance. Positive variations are much smaller.*

**** *Contact factory for other frequencies*

OUTLINE & DIMENSIONS



Pad Connections

1. Not connected
2. Ground
3. Output
4. Supply Voltage

Terminations: Au over Ni

PART NUMBERING

Example: 2.0000MHz LSMA050UMA

Frequency

Series Designation LSM

Calibration Tolerance *(see table above)*

Stability*
100 = ±100ppm
50 = ±50ppm
25 = ±25ppm

Output Universal *(CMOS)*

Operating Temp. Range
C = Commercial
I = Industrial
M = Military

Supply Voltage**
Blank = 5.0 Volts
A = 3.3 Volts

* *For other stability requirements enter figure required.*

** *For other supply voltage enter required voltage.*

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