

ISSUE 1; April 2016

### Description

- The LSM oscillator has the highest accuracy, stability and the lowest current of all STATEK surface mount oscillators. The design consists of a STATEK crystal, and a CMOS-compatible integrated circuit. The hybrid design is hermetically-sealed with a kovar lid in a surface mount ceramic package. Permanent precision tuning of the oscillator is accomplished by laser trimming the crystal.
- -SM1 Gold Plated (RoHS)
- -SM5 Solder Dipped (RoHS)
- Please note that all data is only valid at 25°C unless otherwise stated.

### Frequency Parameters

- Frequency 700.0kHz to 2.1MHz
- Frequency Tolerance  $\pm 100.00\text{ppm}$  to  $\pm 1,000.00\text{ppm}$
- Tolerance Condition @ 25°C
- Ageing  $\pm 10\text{ppm}$  max per year
- Frequency Stability (over 0°C to 70°C): -0.12% typ, -0.017% max  
Note: Does not include Frequency Tolerance. Positive variations are much smaller.
- Note: Other Frequency Tolerances are available - please contact an IQD Sales Office
- Voltage Coefficient:  $\pm 5\text{ppm/V}$  max
- Load Variation ( $\pm 10\%$  change):  $\pm 1\text{ppm}$  max

### Electrical Parameters

- Supply Voltage 5.0V  $\pm 10\%$
- Absolute Maximum Supply Voltage: 3.3V to 7V
- Start-Up Time: 20ms typ

### Operating Temperature Ranges

- -10 to 70°C
- -40 to 85°C
- -55 to 125°C

### Output Details

- Output Compatability CMOS
- Drive Capability 10pF//10M $\Omega$

### Output Levels

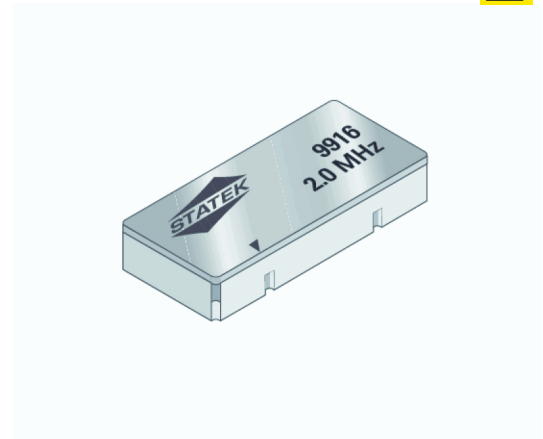
- VoL: 10%Vs max
- VoH: 90%Vs min

### Environmental Parameters

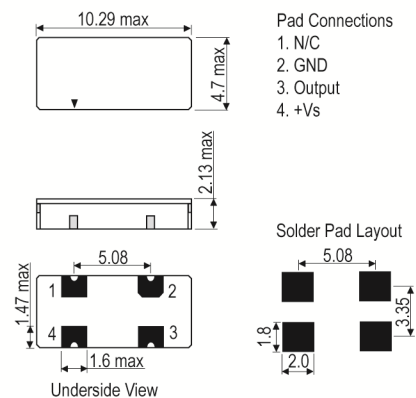
- Shock: 750G, 0.3ms, 1/2 sine
- Vibration: 10G rms, 10-2000Hz
- Storage Temperature Range: -55 to 125°C

### Manufacturing Details

- Maximum Process Temperature: 260°C for 20sec max



Outline (mm) -SM1 = Gold Plated (RoHS)



### Sales Office Contact Details:

UK: +44 (0)1460 270200  
Germany: 0800 1808 443

France: 0800 901 383  
USA: +1.760.318.2824

Email: [info@iqdfrequencyproducts.com](mailto:info@iqdfrequencyproducts.com)  
Web: [www.iqdfrequencyproducts.com](http://www.iqdfrequencyproducts.com)

### Ordering Information

- Frequency\*  
Model\*  
Supply Voltage  
Termination Variant\*  
Frequency Tolerance\*  
Operating Temperature Range\*  
(\*minimum required)
- Termination Variants:  
SM1 = Gold Plated  
SM5 = Solder Dipped  
Note: non-RoHS compliant terminations are available - please contact an IQD Sales Office
- Example  
1.0MHz LSM EXT 5.0V-SM1  
CMOS  $\pm 1000$ ppm -40 to 85C

### Compliance

- RoHS Status (2011/65/EU)      Optional
- REACH Status                      Compliant
- MSL Rating (JDEC-STD-033):    Not Applicable

### Packaging Details

- Pack Style: Tray      Supplied on a tray  
Pack Size: 100
- Pack Style: Reel      Tape & reel in accordance with EIA-481-D  
Pack Size: 1,000

### Electrical Specification - maximum limiting values 5.0V $\pm 10\%$

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
700.0kHz	2.1MHz	-10 to 70	-	0.4	25	40/60%
		-40 to 85	-	0.4	25	40/60%
		-55 to 125	-	0.4	25	40/60%

*This document was correct at the time of printing; please contact your local sales office for the latest version.*

[Click to view latest version on our website.](#)

### Sales Office Contact Details:

UK: +44 (0)1460 270200  
Germany: 0800 1808 443

France: 0800 901 383  
USA: +1.760.318.2824

Email: [info@iqdfrequencyproducts.com](mailto:info@iqdfrequencyproducts.com)  
Web: [www.iqdfrequencyproducts.com](http://www.iqdfrequencyproducts.com)