Z~Communications

SFS1685A-LF

Rev A1

Fixed Frequency Synthesizer
Surface Mount Module

Applications

- Satellite Communications
- Microwave Radio
-

Application Notes

- AN-107: Manual Soldering Technique
- AN-205: Measuring Phase Noise for SFS Series

Performance Specifications	Min	Typ	Max	Units
Frequency	1685		1685	MHz
Phase Noise @ 10 kHz offset (1 Hz BW)		-106		dBc/Hz
Harmonic Suppression (2nd)		-25		dBc
Spurious Suppression		-80		dBc
Power Output	4	6	8	dBm
Load Impedance		50		Ω
Settling Time		1.2		mS
Operating Temperature Range	-40		85	°C
Package Style		PLL-V12N		

Power Supply Requirements	Min	Typ	Max	Units
Supply Voltage 1: PLL (Vcc, nom)		3		Vdc
Supply Voltage 2: VCO (Vcc, nom)		5		Vdc
Supply Current 1: PLL (Icc, typ)		9		mA
Supply Current 2: VCO (Icc, typ)		31		mA

Reference Oscillator Signal	Min	Typ	Max	Units
Frequency		10		MHz
Phase Noise @1 kHz offset		-145		dBc/Hz

Additional Notes

Note1: Phase noise measurement was performed using a 10MHz CMOS reference oscillator with a phase noise of -145dBc/Hz @1KHz.
Note2: For Reference oscillator frequency of <20MHz, ensure SR>50V/us. See Analog Devices ADF4106 application note for more details.
Pin 7, 8, and 9 are no-connect.

Phase Noise, typ.

PHASE NOISE (1 Hz BW, typical)

Phase Noise 10.00dB/ Ref -20.00dBc/Hz

Carrier 1.685018294 GHz   -0.1342 dBm

1:	100 Hz	-93.3979 dBc/Hz
2:	1 kHz	-96.3764 dBc/Hz
3:	10 kHz	-109.8681 dBc/Hz
4:	100 kHz	-133.3280 dBc/Hz
>5:	1 MHz	-153.8342 dBc/Hz

£(f) (dBc/Hz)

OFFSET (Hz)
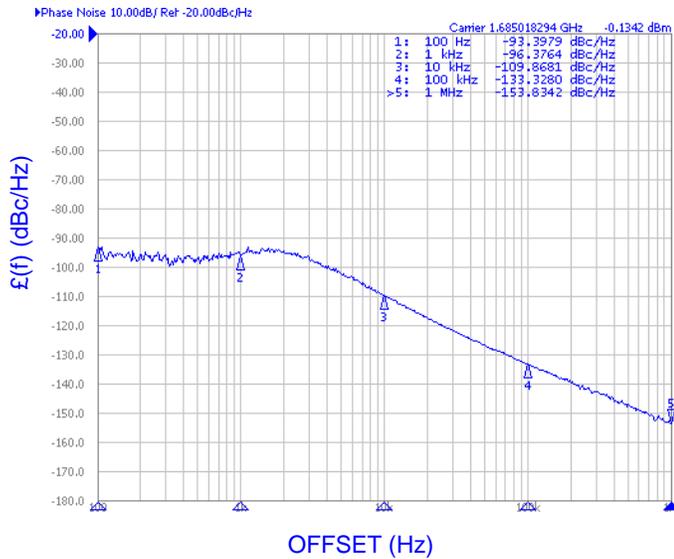
Footprint

RECOMMENDED FOOTPRINT

SEVERAL HOLES OF Ø 0.015 ON GND. PLANE ARE RECOMMENDED FOR GOOD GROUNDING.

0.600
2X 0.500
2X 0.420
2X 0.340
2X 0.260
2X 0.180
2X 0.100
0.000

0.030 MIN. CUTBACK FROM LIVE PADS

0.054 TYP

0.000   0.070 TYP   0.600

Physical Dimensions

0.600
2X 0.500
2X 0.420
2X 0.340
2X 0.260
2X 0.180
2X 0.100
0.000

0.000   0.600

BOTTOM

A

0.075   0.045
0.031
0.052
0.114

DETAIL-A

R0.015

0.025
0.130
0.035

Z-COMM
XXXXXXXXX-LF
W/O#
D/C
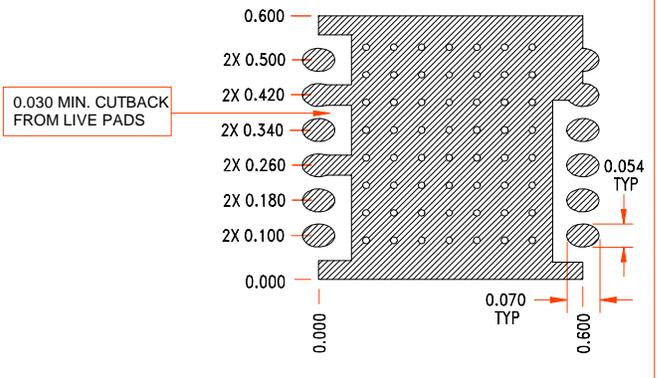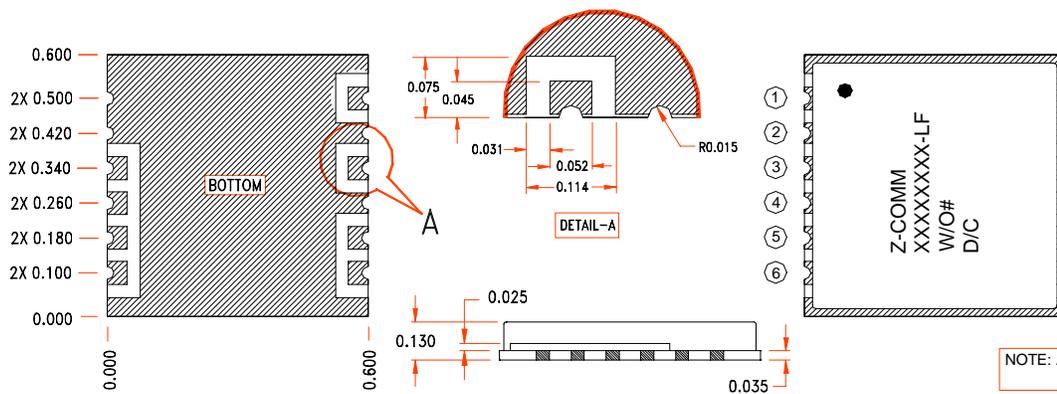
PIN CONFIGURATION	
1	Vcc(VCO)
3	RF OUT
5	MUX OUT
6	Vcc(CHIP)
7	CLOCK
8	DATA
9	ENABLE
10	REF IN
REST	GROUND

NOTE: ALL DIMENSIONS ARE IN INCHES
TOL: XXX: +/- 0.010

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