EMRESEARCH®
FULL SPECTRUM INNOVATION

HFS-2095-08

PROGRAMMABLE FREQUENCY SYNTHESIZER

GENERAL DESCRIPTION

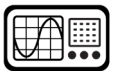
The HFS-2095-08 is a powerful high frequency synthesizer in a surface mount package, featuring programmable frequencies covering 1470 MHz to 2095 MHz with 100 KHz steps. This broadband surface mount synthesizer has excellent phase noise and low spurious.

HFS-2095-08 FEATURES

- Surface Mount Package (1.25” x 1.00” x 0.24”)
- Programmable frequencies between 1470 and 2095 MHz
- Simple Programming Format
- Demo Board Available

APPLIED INDUSTRIES

Converters


Instrumentation

ECM

HFS SERIES OPTIONS

- Fixed frequencies from 50 to 13000 MHz
- Broadband Designs Available
- Internal Reference Output Available
- Optional Internal Reference
- Optional Reference Detect Switch

HFS SERIES TYPICAL APPLICATIONS

- Radar Systems
- Frequency Conversion
- High Performance Compact Instrumentation
- Converters
- Electronic Countermeasures

ELECTRICAL SPECIFICATIONS

Frequency		1470-2095 MHz
Stability		Same as Reference
Step Size		100 KHz
Switch Speed		<10 msec w/in ±10 KHz of Final Freq.
Reference		10 MHz, 1.5-3.5 Vpp, High Impedance
Ref. Input Imp.		CMOS, 10 pF SHUNT MAX INPUT
Ref. Phase Noise	100 Hz	<-130 dBc/Hz
	1 KHz	<-150 dBc/Hz
	10 KHz	<-155 dBc/Hz
Output Power		+13 dBm ±2.5 dB, 50 Ω

Harmonics		<-20 dBc TYP, <-15 dBc MAX
Spurs		<-65 dBc TYP, <-60 dBc MAX
Phase Noise	1 KHz	<-85 dBc/Hz TYP , <-80 dBc/Hz MAX
	10 KHz	<-95 dBc/Hz TYP , <-90 dBc/Hz MAX
	100 KHz	<-110 dBc/Hz TYP , <-105 dBc/Hz MAX
D-VCC		+5V ±0.15V @40 mA TYP, 50 mA MAX
A-VCC		+5V ±0.15V @125 mA TYP, 135 mA MAX
Lock Detect		3.3V TTL, HIGH = LOCK
Programming		Serial,Clock,Data,Enable, 3.3V TTL Logic
Prog. Format		PF-19

All specifications are typical unless otherwise specified and subject to change without notice.

IPC® ISO 9001 CERTIFIED COMPANY RoHS Compliant

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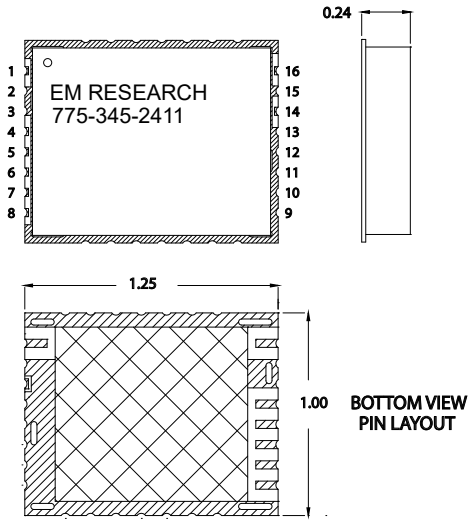
PACKAGE OUTLINE



PIN DESCRIPTIONS

1	D-VCC	8	REF IN
2-3	GND	9-13	GND
4	LOCK	14	RF OUT
5	CLOCK	15	GND
6	DATA	16	A-VCC
7	ENABLE		

MECHANICAL SPECIFICATIONS

Package	Surface Mount, 1.25” x 1.00” x 0.24”
Package Outline	EM Drawing 2200009001
Part Label	EM Drawing 8000019001

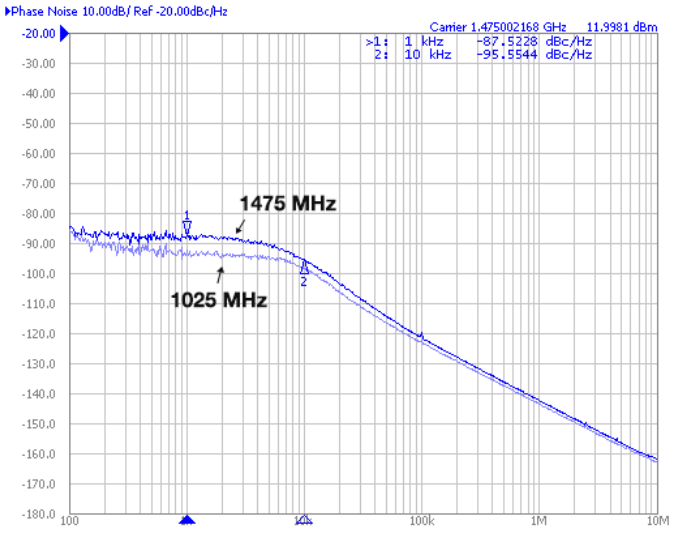
All dimensions are in inches unless otherwise specified
.XX = +/- 0.01.

ENVIRONMENTAL SPECIFICATIONS

Standard Operating Temperature	-30°C to +70°C
Optional Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +125°C

Custom designs are available. Please contact EM Research.

PHASE NOISE PLOT



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DETAILS

Title	Programmable Frequency Synthesizer Part No. HFS-2095-08
File	SPC-HFS-2095-08-REVA
Scale	N/A
Size	A
Rev.	A

APPROVALS

Department	Date
DWN:	
QA:	
MKTG:	
ENG:	
MFG:	
Other:	

REVISION HISTORY

Rev.	Description	Date	Approved
A	Configurable Product		DCR#

NOTES

PRELIMINARY

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