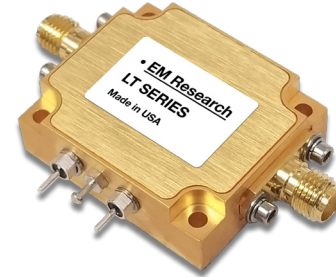


**GENERAL DESCRIPTION**

The LT-10500-03 is a ruggedized synthesizer in a module mount package, that produces a fixed signal at 10500 MHz. Part of the Little THOR family from EM Research, this compact device features extreme shock and vibration tolerance, as well as removable SMA connectors for surface mount-ability.



**LT-10500-03 FEATURES**

- Module Mount Package (1.30" x 1.10" x 0.40")
- Fixed Frequency
- Removable SMA connectors for surface mount-ability
- Extreme shock, and vibration tolerance
- Output power of +3 dBm
- Harmonics less than -20 dBc

**APPLIED INDUSTRIES**



**LT SERIES OPTIONS**

- Frequency range from 50 MHz to 19 GHz (within selected bands)
- Hermetic seal optional per MIL-STD-883
- Power output up to +17 dBm

**LT SERIES TYPICAL APPLICATIONS**

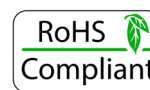
- LO for Up/Down Converters
- X-Band Local Oscillator
- LO for Sub-harmonic Mixers

**ELECTRICAL SPECIFICATIONS**

Frequency	10500 MHz
Stability	Same as Reference
Reference	10 MHz, 0 dBm ±3 dB
Ref. Input Imp.	50 Ω
Output Power	+3 dBm ±2 dB, 50 Ω
Harmonics	<-20 dBc
Sub Harmonics	<-20 dBc @ Fout ± (N/4 Fout), N = 1,2,3

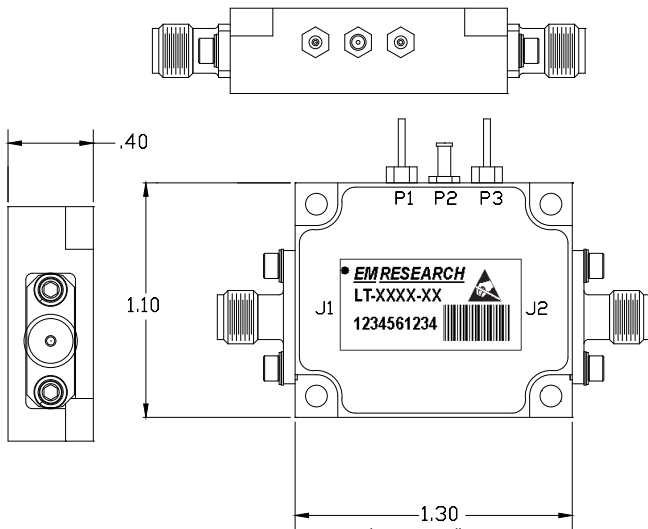
Spurs	<-60 dBc REF SPURS	
Phase Noise	1 KHz	<-70 dBc/Hz
	10 KHz	<-90 dBc/Hz
	100 KHz	<-110 dBc/Hz
VCC	+5 VDC ±0.15 V @ 175 mA TYP	
Lock Detect	5V TTL, HIGH = LOCK	
Lock Time	40 mSEC MAX from Stable VCC	

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





**PACKAGE OUTLINE**



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

**PIN DESCRIPTIONS**

J1	RF OUT	Female SMA
J2	REF IN	Female SMA
P1	VCC	Filtered Feedthrough
P2	GND	Terminal
P3	LOCK	Filtered Feedthrough
Housing is Ground		

**MECHANICAL SPECIFICATIONS**

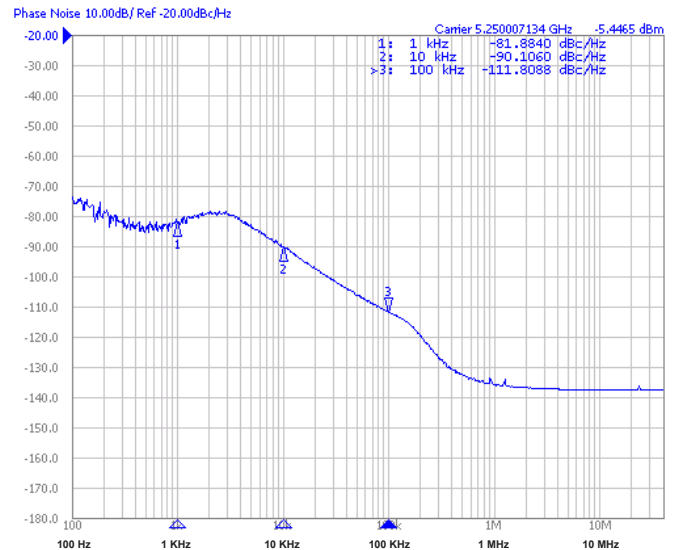
DC Connectors	Filtered Feedthrough
REF & RF Connectors	Female SMA
Package	Surface Mount, 1.30" x 1.10" x 0.40"
Package Outline	EM Drawing 2200006006
Part Label	EM Drawing 8000002001

**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**





**DETAILS**

Title	Fixed Frequency Synthesizer Part No. LT-10500-03
File	SPC-LT-10500-03-REVA
Scale	N/A
Size	A
Rev.	A

**APPROVALS**

Department	Date
DWN: Kielely Smith	12/17/19
QA: Susan Zandonella	10/4/19
MKTG: Matt Eiting	12/11/19
ENG: Evan Smith	12/12/19
MFG: Nick Hicks	12/12/19
Other:	

**REVISION HISTORY**

Rev.	Description	Date	Approved
A	Configurable Product	12/17/19	DCR# 1904345

**NOTES**