

规格书编号

SPEC NO :

产品规格书

SPECIFICATION

CUSTOMER 客户: _____
PRODUCT 产品: **Frequency Synthesizer**
MODEL NO 型号: **HDM9020**
PREPARED 编制: Duchuangang CHECKED 审核: Houshihong
APPROVED 批准: CHARLES D A T E 日期: 2008-01-30

客户确认 CUSTOMER RECEIVED:		
审核 CHECKED	批准 APPROVED	日期 DATE

无锡市好达电子有限公司
Shoulder Electronics Limited

1.Features

Integrated VCO + PLL

Low Noise and Suprious

High reliability over temperature changes

Low operating voltage (VCC VCO=+5V, VCC PLL=+3.3V)

Small size 14.83×20.32×3.91mm

2.Appllications

CDMA 2000

Wireless Base Station

Wireless Repeater

Point to point communication Equipment

3. Product Description

M9000 series of low phase noise SMD micro frequency synthesizer introduces Hybrid Integration Technology, by integrating PLL chips, loop filters, buffer, relevant external components and circuit Performance Indicators in a size of 20*15mm² through SMD technology. This series frequency synthesizer needs to be connected outside with reference signal through 3-wire Serial Control Interface to settle working frequency.

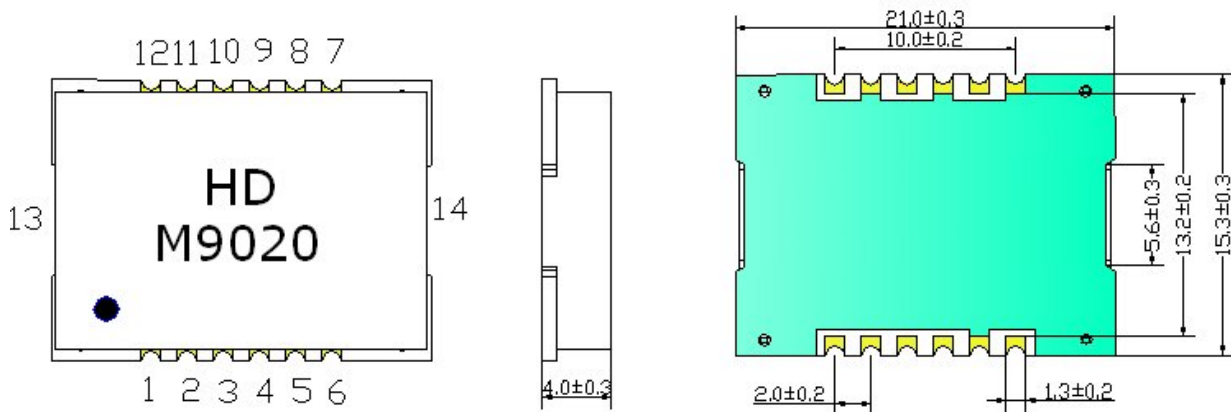
4. Electrical Specifications

Test conditions: VCC VCO=+5V, VCC PLL=+3.3V, Step Size=30KHz,
 Reference Freq.=30MHz, Reference Level=1Vp-p, Reference P.Noise=-125dBc/Hz(@100Hz),
 Impedance = 50 Ω , Charge Pump Current=2.55mA, LD=Digital Lock Detect.

Parameters		Min.	Typ.	Max.	Units	Cpk
Frequency Range	Over temperature	970	-	1073	MHz	
Step Size		-	30	-	KHz	
PFD Frequency			15		MHz	
Setting Time	Within ±1KHz	-	-	15	mSec	
Output Power	@+25°C	-1	0	+1	dBm	≥TBD
	@-40°C to +85°C	-2	0	+2	dBm	
SSB Phase Noise	@100Hz offset	-	-80	-75	dBc/Hz	≥TBD
	@1KHz offset	-	-88	-83		≥TBD
	@10 KHz offset	-	-95	-88		
	@100 KHz offset	-	-123	-118		
	@1MHz offset	-	-143	-139		
Spurious Suppression	@Step Size @ ±15KHz	-	-	-60	dBc	
	@Step Size @ ±30KHz	-	-	-60		
	@PFK Comparison frequency offset @ ±15MHz	-	-	-70		
	@Referent frequency offset	-	-80	-70		
	@Non-Harmonic	-	-90	-85		
Harmonic Suppression		-	-20	-15	dBc	
VCO Power Supply		+4.85	+5.00	+5.15	V	
PLL Power Supply		+3.10	+3.30	+3.50	V	
VCO Supply Current		-	30	36	mA	
PLL Supply Current		-	15	23	mA	
Reference Input	Frequency	-	30	-	MHz	
	Amplitude (Square wave)	-	1	-	V _{p-p}	
	Input impedance	-	100	-	K Ω	
	Phase Noise @ 100Hz offset	-	-125	-	dBc/Hz	
RF Output port Impedance		-	50	-	Ω	
Input Logic Level	Input high voltage	2.8	-	3.4	V	
	Input low voltage	-	-	0.7	V	
PLL Lock	Locked	2.7	-	3.5	V	
Monitor Output	Unlocked	-	-	0.4	V	
Frequency Synthesizer PLL		ADF4153				
PLL Programming		3-wire serial 3V CMOS				
Register Map @ 1072.98MHz	R0_Register	(MSB) 000100011100010000101000 (LSB)				
	R1_Register	(MSB) 000100001000011111010001 (LSB)				
	R2_Register	(MSB) 0000001111000010 (LSB)				
	R3_Register	(MSB) 00000000011 (LSB)				

Absolute Maximum Ratings

Parameters	Ratings
VCO Supply voltage	5.8V
PLL Supply voltage	4V
Reference Frequency Vlotage	0.7Vp-p min, VCC PLL +0.3Vmax
Data, Clock, Strobe Voltages	1.4Vmin, VCC PLL+0.3Vmax
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C

5. Tape and Reel Packaging Information


Pin NO.	Function	Pin NO.	Function
1	Vpll	8	GND
2	GND	9	MUXOUT
3	REFin	10	CLK
4	GND	12	DATA
5	Vvco	12	LE
6	GND	13	GND
7	RFout	14	GND