

Engineering Development Model

Frequency Synthesizer

KSN-EDR10970

Important Note

This model has been designed, built and tested in our engineering department. Performance data represents model capability. At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.



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CASE STYLE : DK1042

ELECTRICAL SPECIFICATIONS 50Ω, over -40°C to +85°C				
Parameter	Min.	Typ.	Max.	Units
Frequency	490		490	MHz
Step size		7000		kHz
Settling Time Within ±1kHz		540		μsec
Output Power	-4	0	+3	dBm
Phase Noise				
at 100 Hz offset		-101		dBc/Hz
at 1 kHz offset		-106	-100	dBc/Hz
at 10 KHz offset		-108	-102	dBc/Hz
at 100 KHz offset		-131	-125	dBc/Hz
at 1000 kHz offset		-156	-151	dBc/Hz
Integrated SSB Phase Noise		-62		dBc
Reference Spurious Suppression		-80		dBc
Comparison Spurious Suppression		-26		dBc
Non-Harm. Spurious Suppression		-90		dBc
Harmonic Suppression		-35		dBc
Supply voltage VCO		5		V
Supply voltage PLL		5		V
Supply current VCO		40	48	V
Supply current PLL		12	20	V
Reference In (External) Frequency		49		MHz
Reference In (External) Amplitude		1		Vp-p
Reference In (External) Impedance		100		kΩ
Reference In (External) Ph. N @ 1kHz		-145		dBc/Hz
Digital Lock Detect Locked	4.6		5	V
Digital Lock Detect Unlocked			0.4	V
Frequency Synthesizer PLL	Self-programmed (internal microcontroller)			

ABSOLUTE MAXIMUM RATINGS	
Operating Temperature	-45°C to 85°C
Storage Temperature	-55°C to 100°C
VCO Supply Voltage	6V
PLL Supply Voltage	6V
Reference Frequency voltage	5.8Vp-p
Data, Clock & LE levels	5.3V

Power On sequence: Vcc VCO followed by Vcc PLL

Power Off sequence: Vcc PLL followed by Vcc VCO

PIN CONNECTIONS			
RF OUT	7	N.C	10,11,12
VCC VCO	5	GROUND	2,4,6,8,13,14
VCC PLL	1		
REF IN	3		
LOCK DETECT	9		

Notes

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
 B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuits' applicable established test performance criteria and measurement instructions.
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