

Engineering Development Model

Frequency Synthesizer

DSN-EDR11167

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 : 99-01-1928

ELECTRICAL SPECIFICATIONS 50Ω, over -30°C to +70°C				
Parameter	Min.	Typ.	Max.	Units
Frequency	1025		1475	MHz
Step size		100		kHz
Settling Time Within ±1kHz		40		msec
Output Power	+10	+14	+18	dBm
Phase Noise				
at 100 Hz offset		-89		dBc/Hz
at 1 kHz offset		-97		dBc/Hz
at 10 KHz offset		-98	-92	dBc/Hz
at 100 KHz offset		-121	-115	dBc/Hz
at 1000 kHz offset		-144		dBc/Hz
Integrated SSB Phase Noise		-52		dBc
Ref & Comp Spurious Suppression		-95		dBc
0.5 Step size Spurious Suppression		-107		dBc
Non-Harm. Spurious Suppression		-90		dBc
Harmonic Suppression		-44	-18	dBc
Supply voltage	A-VCC	5		V
	D-VCC	5		V
Supply current	A-VCC	68	78	V
	D-VCC	46	55	V
Reference In (External)	Frequency	10		MHz
	Amplitude	1		Vp-p
	Impedance	100		kΩ
	Ph. N @ 1kHz	-145		dBc/Hz
Input Logic Levels	Logic high	2	3.3	V
	Logic Low		0.5	V
Digital Lock Detect	Locked	1.4	3.3	V
	Unlocked		0.4	V
Frequency Synthesizer PLL	Automatic startup at specified frequency (via internal microcontroller) & user programable (ADF4153)			

ABSOLUTE MAXIMUM RATINGS	
Operating Temperature	-45°C to 85°C
Storage Temperature	-55°C to 100°C
A-VCC Supply Voltage	6V
D-VCC Supply Voltage	6V
Reference Frequency voltage	3.6Vp-p
Data, Clock & LE levels	3.6V

Power On sequence: A-VCC followed by D-VCC
Power Off sequence: D-VCC followed by A-VCC

PIN CONNECTIONS			
RF OUT	14	CLOCK	5
A-VCC	16	DATA	6
D-VCC	1	LATCH ENABLE	7
REF IN	8	GROUND	2,3,9,10,12,13,15
LOCK DETECT	4		

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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