

Phase-Locked Source, 114GHz

Pout=+10dBm, WR-08 Output

Both Internal and External, 100MHz OCXO inside

Product Overview

AT Microwave provides Phased Locked Dielectric Resonator Oscillator (PLDRO) with state of art performance with high stable, reliable and efficient from 33-230GHz. Output power can be provided from +10dBm to +33dBm according to request.

These phase-locked source is combined with a PDRO and Active frequency multiplier. 100MHz OCXO internal referenced in the PDRO modules. 10MHz external is optional if needed.

More information, please visit www.atmicrowave.com



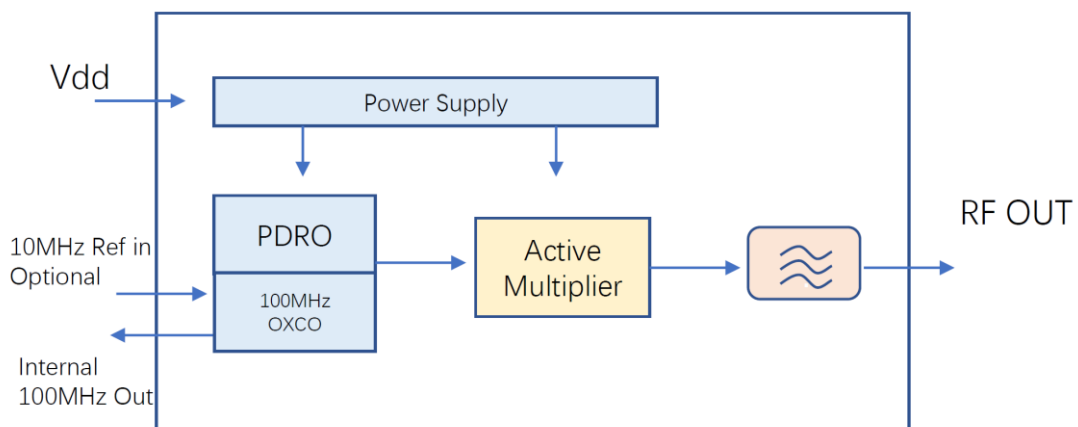
Advantages

- ✓ Super Low Phase Noise
- ✓ Super Low Harmonics
- ✓ Low Spurs, High Power
- ✓ Both Internal or external

Application

- ✓ 5G Communication
- ✓ Test Equipment
- ✓ ROF (RF Over Fiber)
- ✓ Radar System

Block Diagram





AT-PLO-114IR-10-08

Phased Locked Dielectric Resonator Oscillator

Key Features

Parameter	Min	Typical	Max
RF OUT Frequency Range		114GHz	
Output Power	+9	+10dBm	
Reference		Both internal and External	
Reference Inside		100MHz OXCO	
External Reference (Optional)		10MHz	
External Reference Power	+3dBm	+5dBm	+10dBm
Frequency Stability		+/-0.1ppm Internal (0-50C) or Same as External Reference	
PDRO Inside		14.25GHz	
PDRO Phase Noise		See table	
Multiplier Times		N=8	
Output Phase Noise		PDRO Phase Noise +20lgN +3dB	
Harmonics		-60dBc	
Spurs		-70dBc	
Phase Lock Indicator		TTL=High	
Power Supply		12V	
Current		0.5A	
Spec Temp		25C	

Mechanical Information

Item	Description
RF Output Port	WR-08
External Reference Input	SMA Female
Internal Reference Output	SMA Female
Power Supply	PIN
Phase Locked Indicator	PIN
Case Material	Aluminum
Finish	Nickel Plated
Weight	500g
Size:	See outline





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Phased Locked Dielectric Resonator Oscillator

Absolute Maximum Ratings Table

Parameter	Value
Drain Supply	+15V
Reference Input Power	+15dBm
Operating Temperature	-10 to + 60C
Storage Temperature	-50 to +150C

Notes:

1. Datasheet may be changed according to update of MMIC, Raw materials , process, and so on.
2. This data is only for reference, not for guaranteed specifications.
3. Please contact AT Microwave team to make sure you have the most current data.

Part Number Selection Guide

AT - PLO - XX IR - YY - ZZ

PLO: Phase Locked PDRO
XX: Frequency in GHz, 18-230GHz available

IR: Interference inside
YY: Output Power, up to +30dBm
ZZ: Waveguide Port, 10=WR-10

For example, AT-PLO-94IR-18-10:
Frequency=94GHz, Pout=+18dBm, WR-10





AT-PLO-114IR-10-08

Phased Locked Dielectric Resonator Oscillator

PDR0 Phase Noise Inside

Frequency	1	2	4	6	8	10	12	14	16
dBc/Hz@100Hz	108	102	-96	-92	-92	-88	-88	-86	-83
dBc/Hz@1KHz	-133	-126	-120	-116	-115	-113	-110	-108	-102
dBc/Hz@10KHz	-135	-131	-126	-120	-120	-120	-118	-118	-105
dBc/Hz@100KHz	-135	-131	-126	-120	-120	-120	-120	-118	-110
dBc/Hz@1MHz	-140	-140	-140	-140	-140	-140	-140	-140	-140
Frequency	18	20	24	26	28	32	36	40	44
dBc/Hz@100Hz	-83	-80	-80	-80	-78	-78	-76	-73	-72
dBc/Hz@1KHz	-108	-104	-104	-102	-102	-96	-95	-94	-93
dBc/Hz@10KHz	-114	-113	-112	-110	-110	-99	-97	-94	-93
dBc/Hz@100KHz	-114	-113	-112	-110	-110	-104	-103	-102	-102
dBc/Hz@1MHz	-136	-134	-133	-131	-131	-130	-130	-130	-130
★ Note: Frequency 16-44GHz, Sub-harmonics: -60dBc									



Dimension (mm)

