BG9244-LD （Nixie Tube display, with CPU）

ALC (AGC) FTTB Optical Receiver

PRODUCT DESCRIPTION

BG9244-LD product series have the bandwidth of 47~862MHz,with ALC（AGC）function, two outputs, the output level Vo=104dBμV（Pin:-7~+2dBm, APD=8dB）. The device has built-level gain and equalization adjustment, visual display about optical power, and can choose 1way or 2 ways high level output by illustration. It applies to FTTB optical access to network, is an ONU optical receiver unit of RFTV radio network with low power, high performance, high cost- effective.

BG9244-LD has this four types:

BG9244A-LD-NC:operating in 1260~1620nm wavelength，used in CATV system with analog TV channels.

BG9244D-LD-NC:operating in 1260~1620nm wavelength，used in CATV system with analog TV channels.

BG9244A-LD-WD:built-in CWDM,RFTV operation wavelength 1550nm,pass wavelength 1310/1490nm,(links EPON, GPON ONU).

BG9244D-LD-WD:Built-in CWDM,RFTV operation wavelength 1550nm,pass wavelength 1310/1490nm,(links EPON, GPON ONU).

PRODUCT FEATURES

▶Excellent AGC features: Pin:–7.0dBm~+2dBm, ΔVo : ≤±1. 0dB

▶Output level and slope are continuously adjustable in range of 0~15dB

▶Two high level output, applies to FTTB, FTTC

▶Nixie tube displays various parameters of the deviece inside

▶Four different configurations are applicable for different Networks:

BG9244A-LD-NC is applicable for analog TV

BG9244D-LD-NC is applicable for digital TV

BG9244A-LD-WD is applicable for FTTX PON

BG9244D-LD-WD is applicable for FTTX PON

▶Aluminum-casting housing, waterproof, for FTTB, FTTC

▶Excellent fuction and reliability

▶Excellent P/P ratio

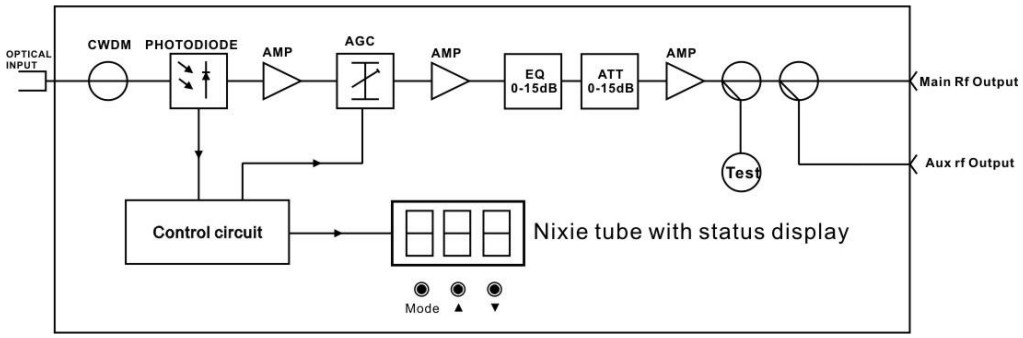
MAIN APPLICATION

▶FTTB, FTTC

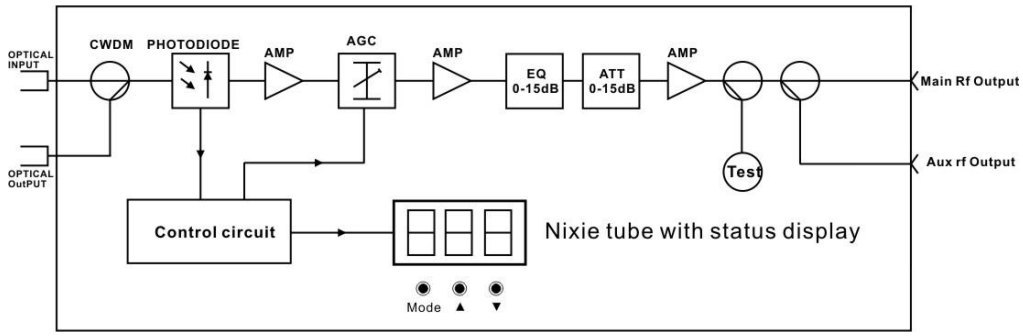
▶HFC

FUNCTIONAL BLOCK DIAGRAM

BG9244x-LD-NC



BG9244x-LD-WD



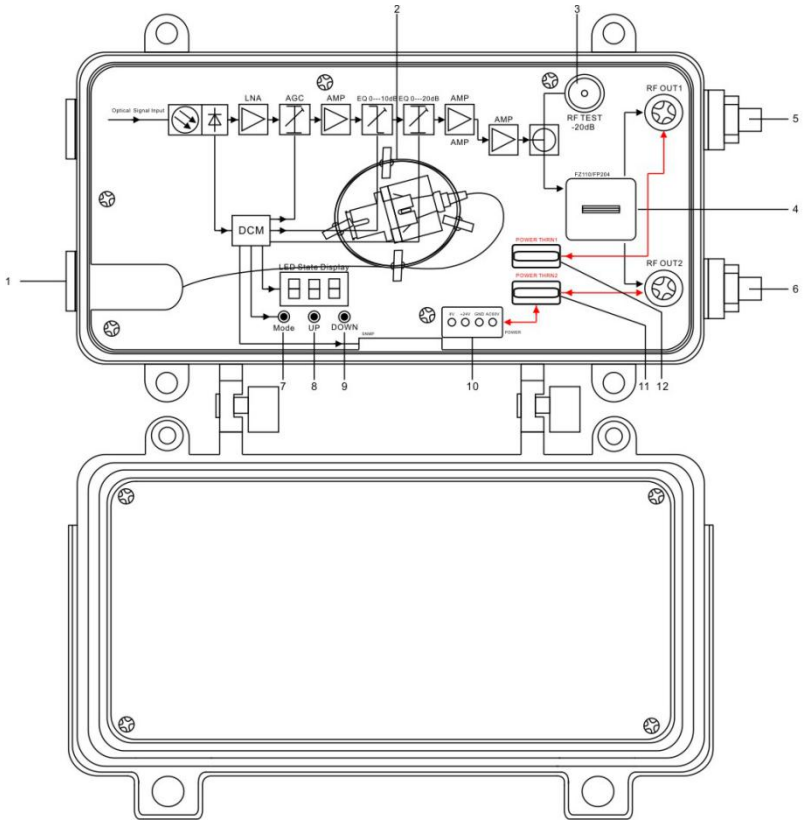
TECHNICAL INDEX

Performance			Index	Supplement
Optical feature	CATV Operating wavelength	(nm)	1260~1620	BG9244x-LD-NC
			1540~1560	BG9244x-LD-WD
	Input wavelength	(nm)	1310,1490/1550	
	Pass wavelength	(nm)	1310,1490	
	Channel Isolation	(dB)	≥40	
	Responsivity	(A/W)	≥0.85	1310nm
			≥0.9	1550nm
	Optical AGC control	(dBm)	-7~+2	Vo: 104 dBμV ±1.0
	Receiving power	(dB)	-10~+2	Analog TV
			-17~+2	Digital TV
	Optical return loss	(dB)	≥50	
	Optical fiber connector		LC/APC	Optional SC/APC, FC/APC
RF feature	Work bandwidth	(MHz)	45~862	
	Flatness	(dB)	≤±1.0	
	Output level	(dBμV)	104 ±1.0	Pin: -7.0~ +2.0dBm,PAD=8dB
	AGC feature	(dB)	≤±1.0	Pin:-7.0~+2.0dBm
	Max output level	(dBμV)	112	
	Output level adjust	(dB)	-15~0	
	Output slope adjust	(dB)	-15~0	
	Return loss	(dB)	≥14	47 ~ 862MHz
	Output impedance	(Ω)	75	
	RF port		F-Female	
Analog TV line feature	Test channel		59CH(PAL-D)	47~550MHz Analog
			Digital QAM	550-862MHz
	OMI	(%)	3.8	
	CNR1	(dB)	54.6	Pin=-2dBm
	CNR2	(dB)	48.6	Pin=-7dBm
	CTB	(dB)	≤-70	Pin=-2dBm
	CSO	(dB)	≤-65	Pin=-2dBm

	HUM	(dB)	≤-60	
Digital TV line feature	Test channel		<10 CH	Analog
			Digital QAM	47-862MHz
	MER	(dB)	≥35(注 1)	Pin:-7.0~2.0dBm
			≥30	Pin=-16.0dBm
	BER	(dB)	<1.0E-9	Pin :-20~+2.0dBm
General feature	Power supply	(V)	AC(130~265)V	AC(35~85)V
	Power Consume	(W)	≤15	
	Work temp	(℃)	-40~60	
	Storage temp	(℃)	-40 ~ 65	
	Relative humidity	(%)	5 ~ 95	
	Size(W)×(D)×(H)	(mm)	185×140×91	

Remark: 1. CATV test signal: MER: 35.1dB, BER: <1.0E-9

STRUCTURE DIAGRAM



1. Fiber input
2. Fiber enamel
3. -20dBm RF testing port
4. Output branch or allotter
5. RF output1
6. RF output2
7. Mode selection button
8. Page Up button
9. Page Down button
10. Power supply indicator light
11. Power supply overcorrent film threading 2
12. Power supply overcurrent film threading 1

ANALOG TV TEST DATA (PIN=+2.0DBM~-10.0DBM)

Pin(dBm)	+2	-1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10
Vo(dBμV)	105.0	104.3	103.2	104.1	104.2	104.2	104.0	104.0	104.1	104.3	100.9	97.6	95.6
CNR(dB)	56.2	55.4	53.2	52.5	52.0	51.2	49.7	48.5	47.5	45.7	44.0	40.8	39.6
CTB(dB)	60.8	62.4	63.4	63.6	63.1	64.6	63.0	62.8	63.2	64.2	64.3	65.0	66.9
CSO(dB)	65.3	64.6	66.6	66.8	64.2	66.7	68.2	66.0	66.6	68.8	65.6	66.6	66.6

Remark1.Test condition:1. PAL-D59CH, OMI = 3.8%

2.BG9244 built-in PAD=8dB

Remark 2.Test result: 1. Pin=-2dBm, Vo=104dBμV, CNR=52.0dB

2. Pin=-8dBm, Vo=104dBμV, CNR=44.0dB

DIGITAL TV TEST DATA (PIN=+2.0DBM ~ -20.0DBM)

Pin (dBm)	Vo (dBm)	MER	BER	
			POST	PRE
+2.0	102.4	35.2	<1.0E-9	<1.0E-9
+1.0	103.9	35.1	<1.0E-9	<1.0E-9
+0.0	103.5	35.1	<1.0E-9	<1.0E-9
-1.0	102.8	35.2	<1.0E-9	<1.0E-9
-2.0	103.6	35.0	<1.0E-9	<1.0E-9
-3.0	103.5	35.1	<1.0E-9	<1.0E-9
-4.0	103.2	35.1	<1.0E-9	<1.0E-9
-5.0	103.6	35.1	<1.0E-9	<1.0E-9
-6.0	103.8	35.1	<1.0E-9	<1.0E-9
-7.0	103.7	35.0	<1.0E-9	<1.0E-9
-8.0	102.2	34.9	<1.0E-9	<1.0E-9
-9.0	99.9	34.8	<1.0E-9	<1.0E-9

Pin (dBm)	Vo (dBm)	MER	BER	
			POST	PRE
-10.0	97.3	34.7	<1.0E-9	<1.0E-9
-11.0	95.8	34.5	<1.0E-9	<1.0E-9
-12.0	93.4	33.9	<1.0E-9	<1.0E-9
-13.0	91.8	33.5	<1.0E-9	<1.0E-9
-14.0	89.6	32.8	<1.0E-9	6.6E-7
-15.0	87.8	31.8	<1.0E-9	3.7E-5
-16.0	86.1	30.7	<1.0E-9	2.2E-4
-17.0	83.2	28.8	5.5E-8	<1.0E-9
-18.0	81.8	27.5	4.0E-7	<1.0E-9
-19.0	79.5	25.8	1.7E-5	<1.0E-9
-20.0	77.6	24.4	1.7E-4	<1.0E-9

Remark1.Test condition:1. Test signal: MER:35.4(dB), BER:<1.0E-9

2. Channel negative nuclear:<10CH Analog TV , Digital QAM

3. Output level is 0dB attenuate

Remark 2.Test result: 1. Pin=-11dBm, MER degradation 1dB

2. Pin=-16dBm, MER degradation 5dB

PRODUCT SERIES

Model	Applicable Networks	CWDM	Display
BG9244A-LD-NC	Applies to analog TV and digital TV	Without CWDM	Nixie Tube display
BG9244A-LD-WD		Built-in CWDM applies to FTTx PON	
BG9244D-LD-NC	Applies to CATV network with digital TV	Without CWDM	
BG9244D-LD-WD		Built-in CWDM applies to FTTx PON	

MODEL EXPLANATION

BG9244□-LD-□□-□□-□□

FTTB		ALC (AGC)		Work wavelength (Mhz)		Number of RF output		Output level		Applicable network		Parameter display		CWDM		Optical connector		Power supply	
			9	47~862	2	2ports	44	104(dBμV)	A	AnalogTV	LD	Digital tube display (With CPU)	NC	Without	LA	LP/APC	11	110VAC
			1	47~1000					D	DigitalTV			WD	Build-in CWDM	SA	SC/APC	22	220VAC
			2	47~1200											FA	FC/APC	60	60VAC