



FTTx series product • G9122 Series

Technical Specification

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1.0 PRODUCT DESCRIPTION

G9122, output level $\geq 82\text{dB } \mu\text{V}$ when the receiving optical power is -2dBm , is mainly used in FTTH. As RFTV broadcast network's RX unit, it is a kind of high index, Low power consumption and high cost performance RFTV optical receiver.

This series product adopts high sensitivity receiving tube and special low noise matching circuit. Under 3.8% modulation, when transmitting in full channels and with receiving power of -10dBm , the CNR can still reach high index of 45dB . Therefore, if adopting G9122, it is only need very low optical power to reach 45dB CNR required by the user.

G9122NC: RFTV operate in $1210\sim 1600\text{nm}$ wavelength.

G9122/WF: built-in channel filter, RFTV operating in 1550nm wavelength.

G9122/WD: built-in CWDM, RFTV operating in 1550nm wavelength, reach GEAPON ONU through $1310/1490\text{nm}$ wavelength.

2.0 PRODUCT FEATURE

- Extra-low noise(3.8% modulate, -10dBm receive, $\text{CNR} \geq 45\text{dB}$)
- All receiving optical power in the range of $+3\text{dBm}$ to -12dBm has good linearity
- In the range of $47\sim 862\text{MHz}$, all have good flatness ($\text{FL} \leq \pm 1.0\text{dB}$)
- Metal shell, supply safeguards to opto-electrical sensing device
- High output level can supply for many users
- Low power consumption, high cost performance

3.0 MAIN APPLICATION

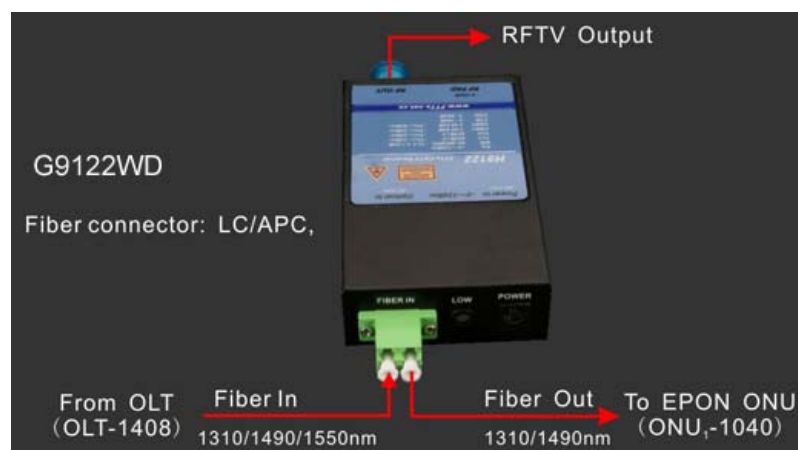
- FTTH
- FTTP, FTTO

4.0 STATUS INDICATOR

- Input optical power status indicator:

$\leq -13\text{dB}$	LED off
$+3\text{dBm} \sim -12\text{dBm}$	Green
$+3\text{dBm}$	Red

5.0 PRINCIPLE



6.0 TECHNICAL INDEX

Performance		Index	Supplement	
Optic feature	Input wavelength	(nm)	1310, 1490/1550	
	CATV work wavelength	(nm)	1250~1600	G9122
			1540~1560	G9122/WF, G9122/WD
	Pass wavelength	(nm)	1310, 1490	G9122/WD
	Receiving power	(dB)	+3 ~ -12	
	Responsibility	(A/W)	1310nm \geq 0.85	
			1550nm \geq 0.9	
	Channel Isolation	(dB)	\geq 40	1550 & 1490nm, G9122/WF,
Optical return loss	(dB)	\geq 55		
Optical fiber connector		SC/APC	G9122/WD: LC/APC	
RF feature	Work bandwidth	(MHz)	47 ~ 862	
	Flatness	(dB)	$\leq \pm 1.0$	
	Output level (Vo1)	(dB μ V)	92	Pin: +3dBm
	Output level (Vo2)	(dB μ V)	82	Pin: -2dBm
	Output level adjust	(dB)	0 ~ 18	MGC
	Return loss	(dB)	\geq 12	47 ~ 862MHz
	Output impedance	(Ω)	75	
	Output port number		1	
RF tie-in		F-Female		
Link feature	Test channel	CH	59CH (PAL-D)	NTSC/80CH
	OMI	(%)	3.8	
	CNR1	(dB)	56.6	Pin: -2dBm
	CNR2	(dB)	48.5	Pin: -8dBm
	CTB	(dB)	\leq -70	Pin: -2dBm
	CSO	(dB)	\leq -66	Pin: -2dBm
	HUM	(dB)	\leq -60	
General feature	Power supply	(V)	+12VDC	\pm 1.0V
	Power Consume	(W)	\leq 2	+12VC, 100mA
	Work temp	($^{\circ}$ C)	-20 ~ +50	
	Storage temp	($^{\circ}$ C)	-40 ~ 85	
	Work relative temp	(%)	5 ~ 59	
	Size	(mm)	59 \times 98 \times 23	(W) \times (D) \times (H)

7.0 TEST DATA

Pin(dBm)	+3	+2	+1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10
Vo(dBμV)	92.2	90.2	88.2	86.2	84.2	82.2	80.2	78.2	76.2	74.2	72.2	70.2	68.2	66.2
CNR(dB)	60	59	58.6	57.7	56.7	55.6	54.4	53.2	51.9	50.8	49.3	48.5	46.4	45.2
CTB(dB)	66	68	70	70	70	70	72	70	68	68	66	65	65	64
CSO(dB)	65	65	65	65	65	66	68	66	65	65	65	63	63	62

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

2. Built-in PAD is 0dB attenuate

3. Test sample: G9122

8.0 PRODUCT SERIES

Model	Input wavelength	Operating wavelength	Pass wavelength	Fiber connector
G9122NC	1310/1550nm	1250~1600nm	-	SC/APC
G9122/WD	1310, 1490/1550nm	1540~1560nm	1310~1490nm	LC/APC
G9122/WF	1310, 1490/1550nm	1540~1560nm	-	SC/APC

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