

QFRF H9122A-SA FTTH / CATV optical



Product description

The QFRF uNode H9122 product can function as a FTTH optical fiber receiver, or as a CATV network optical receiver. It is a highly efficient, high performance CATV optical receiver, with very low power consumption.

The uNode product has an excellent CNR, due to both a very sensitive optical PIN diode detector and a special low noise matching circuit. With a 3.8% optical modulation index (OMI), even when transmitting with full channel loading, and a received optical power of -10dBm, it is still possible to achieve a very usable 45dB CNR. This can result in great network cost savings, due to the need for less optical power.

The uNode H9122 receiver will operate across the entire 1210~1600nm wavelength, and is available in three different housing packages to fit your application.

Product feature

- Very low noise(3.8% modulation, -10dBm receive, $\text{CNR} \geq 45\text{dB}$)
- Very wide operating dynamic range, +3dBm to -12dBm
- Very good flatness in the entire 50~1000MHz CATV band($\text{FL}=0.75\text{dB}$)
- Metal shell provides excellent ESD protection for the PIN Diode detector
- High output, variable level can supply 1-20 TV's
- Low power consumption, high performance

Main application

- FTTH
- CATV system troubleshooting
- Emergency node

Status indicator

- Input optical power status indicator :

$\leq -13\text{dBm}$ = LED off

+3dBm ~ -12dBm = LED Green

> +3dBm = LED Red

Technical index

Performance		Index	Supplement	
Optical Specs	CATV work wavelength	(nm)	1250~1600	
	Receiving power	(dB)	+3 ~ -12	
	Responsivity	(A/W)	1310nm \geq 0.85	
			1550nm \geq 0.9	
	Optical return loss	(dB)	\geq 55	
	Optical fiber connector		SC/APC	UNode-SA
	RF Specs	Work bandwidth	(MHz)	50 ~ 1000
		Flatness	(dB)	$\leq \pm 0.75$
Output level (Vo1)		(dBmV)	32	Pin: +3dBm
Output level (Vo2)		(dBmV)	22	Pin: -2dBm
Output level adjust		(dB)	0 ~ 18	MGC
Return loss		(dB)	\geq 12	47 ~ 870MHz
Output impedance		(Ω)	75	
Output ports			1	
RF connector		F-Female		
Link performance	Test channel	CH	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 features	Power supply	(V)	+12VDC	\pm 1.0V
	Power Consumption	(W)	\leq 2	+12VC, 100mA
	Working temp	($^{\circ}$ C)	-20 ~ +50	
	Storage temp	($^{\circ}$ C)	-40 ~ 85	
	Work relative humidity	(%)	5 ~ 59	
	Size	(mm)	59 \times 98 \times 23	(W) \times (D) \times (H)

Test data

Pin(dBm)	+3	+2	+1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10
Vo(dBmV)	32.2	30.2	28.2	26.2	24.2	22.2	20.2	18.2	16.2	14.2	12.2	10.2	8.2	6.2
CNR(dB)	60	59	58.6	57.7	57.7	56.6	55.4	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: NTSC-80CH OMI=3.8%

2. Attenuator at minimum.

3. Test sample: uNode H9122