

OCR2209E-WDM

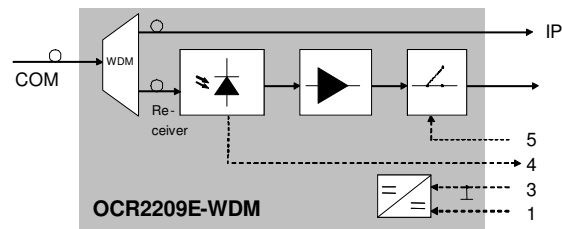
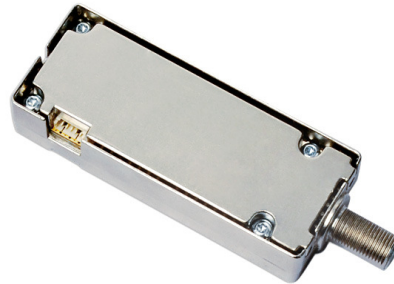
COMPACT OPTICAL RECEIVER MODULE WITH INTEGRATED OPTICAL DEMULTIPLEXER

Application

- ▶ Receiver module for optical networks with CATV and SAT IF signal distribution, HFC and FTTx nodes

Features

- ▶ Ultra low noise push-pull technology
- ▶ Bandwidth of 2.4 GHz
- ▶ 46 dB CNR (typ.) for NTSC with OMI = 4% at -8 dBm optical input power @ 1550 nm
- ▶ 20 dBmV RF output level (-5 dBm, 1550 nm, OMI = 4%)
- ▶ Very low intermodulations
- ▶ Low power consumption
- ▶ Small die cast housing with single-mode fiber pigtail
- ▶ Integrated optical demultiplexer (WDM coupler) for RF overlay applications
- ▶ Monitor voltage output and output disable input
- ▶ Status LEDs for input power ok and output enabled



Technical Data

Electrical/Optical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit
Optical Input Power	P_{IN}	-10		0	dBm
Opt. Wavelength for Receiver	λ_{CATV}	1539	1550	1565	nm
Opt. Wavelength for IP port	λ_{IP1}	1260	1310	1360	nm
	λ_{IP2}	1480	1490	1500	nm
Opt. Wavelength for COM port	$\lambda_{CATV}, \lambda_{IP1/2}$				
Opt. Insertion Loss COM-IP	ATT_{COM-IP}			0.8 *)	dB
Opt. Isolation $\lambda_{IP1/2}$ at Receiver	ISL_{CATV}	35 *)			dB
Opt. Isolation λ_{CATV} at IP port	ISL_{IP}	20 *)			dB
Optical Return Loss	ORL	35	45		dB
Power Supply Voltage	V_{CC}		5 / 6		V
Power Supply Current	ICC		180	200	mA
Monitor Voltage	UCRXPO		$I_{photo} * 1000 \Omega$		V
Fiber		standard single-mode fiber G652 or low bending fiber G657A			
Opt. Connector	COM (CATV _{in} & IP _{in/out})	SC/APC or LC/APC			
	IP _{in/out}	SC/PC or SC/APC or LC/PC or LC/APC			
RF-Connector		F (female)			

*) Specifications are without fiber connectors

RF Characteristics

Parameter	Symbol	Min	Typ	Max	Unit
RF Bandwidth	B	47	-	2400	MHz
Receiver Noise Current	I_{ENC}		6	6.5	pA/√Hz
RF Impedance	Z	-	75	-	Ω
RF Return Loss CATV (47-862 MHz)		14 @ 47 MHz, -1 dB/oct.			dB
RF Return Loss SAT IF (> 950 MHz)		6			dB
Flatness	ΔL	-2.5		+2.5	dB
Output Isolation (output disabled)		40			dB
RF Output Level *)	L	18	20	22	dBmV
CSO for Cenelec 42 **)	CSO	63 (P _{IN} = 0 dBm)	>70 (P _{IN} = -5 dBm)		dB
CTB for Cenelec 42 **)	CTB	61 (P _{IN} = 0 dBm)	>70 (P _{IN} = -5 dBm)		dB

*) P_{IN}= -5 dBm, 1550 nm, OMI = 4%, RF level decreases with 2:1 law with optical input power

**) CSO/CTB contribution of OCR for Cenelec 42 signal according IEC 60728-3 / EN 50083-3, OMI = 4.1%, 1550 nm

Absolute Maximum Ratings

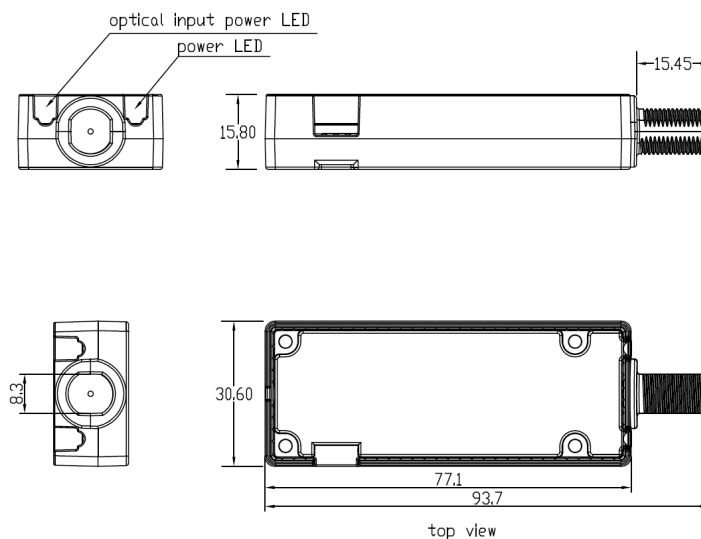
Parameter	Symbol	Min	Max	Unit
Operating Temperature Range	T _{OP}	-10	+60	°C
Storage Temperature Range	T _{stg}	-40	+85	°C
Optical Input Power	P _{IN}		0	dBm
Power Supply Voltage	V _{CC}	4.5	6	VDC

CATV/SAT Disable

The CATV/SAT disable pin 5 allows to deactivate the RF output by a 0-0.8V logic signal level; a 10 kOhms pull-up to V_{CC} is internally connected to this pin (low=deactivated).

Diagnostic LEDs

Normal Operation	Optical Input Power LED: lightening green
Optical Input Power low	Optical Input Power LED: off preadjusted for -14 +/-1dBm
CATV/SAT Disabled	Power LED: off
CATV/SAT Enabled	Power LED: lightening green

Mechanical Outlines


Connector Pin Description

Pin No.	Description	
1	V _{CC}	Power Supply
2	N.C.	not connected
3	GND	GND
4	UCRXPO	Received optical power: The measured monitor voltage is the product of photodiode current and 1000 Ω
5	Output Disable	10 kOhms pull-up to V _{CC} , CATV signal disabled, if connected to GND

