

# OCR1016E

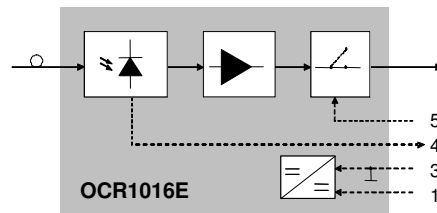
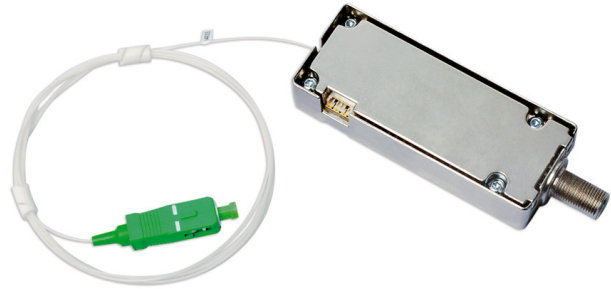
## COMPACT OPTICAL RECEIVER MODULE

### Application

- ▶ Optical receiver module for CATV video overlay in FTTH networks

### Features

- ▶ Ultra low noise push-pull technology
- ▶ Bandwidth of 1 GHz
- ▶ 46 dB CNR (typ.) for NTSC with OMI = 4% at -10 dBm optical input power @ 1550 nm
- ▶ 28 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
- ▶ Monitor voltage output
- ▶ Output disable
- ▶ 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		-3	dBm
Optical Wavelength	$\lambda$	1280	1310/1550	1610	nm
Optical Return Loss	ORL	40	45		dB
Power Supply Voltage	$V_{CC}$		5		V
Power Supply Current	ICC		180	200	mA
Monitor Voltage	UCRXPO		$I_{photo} * 1000 \text{ Ohms}$		V
Optical Connector			single-mode fiber pigtail		
RF-Connector			F – female		

### RF Characteristics

Parameter	Symbol	Min	Typ	Max	Unit
RF Bandwidth	B	47	-	1000	MHz
Receiver Noise Current	$I_{ENC}$		4	4.5	pA/ $\sqrt{\text{Hz}}$
RF Impedance	Z	-	75	-	$\Omega$
RF Return Loss		14 @ 47 MHz, -1 dB/oct.			dB
Flatness	$\Delta L$	-1.0		+1.0	dB
Output Isolation (output disabled)		40			dB
RF Output Level *)	L	26	28	30	dBmV
CSO for Cenelec 42 **)	CSO	63 ( $P_{IN}=-3\text{dBm}$ )	66 ( $P_{IN}=-5\text{dBm}$ )		dB
CTB for Cenelec 42 **)	CTB	61 ( $P_{IN}=-3\text{dBm}$ )	67 ( $P_{IN}=-5\text{dBm}$ )		dB

\*)  $P_{IN} = -5 \text{ dBm}$ , 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	$^{\circ}\text{C}$
Storage Temperature Range	$T_{stg}$	-40	+85	$^{\circ}\text{C}$
Optical Input Power	$P_{IN}$		0	dBm
Power Supply Voltage	$V_{CC}$	4.5	6.0	VDC

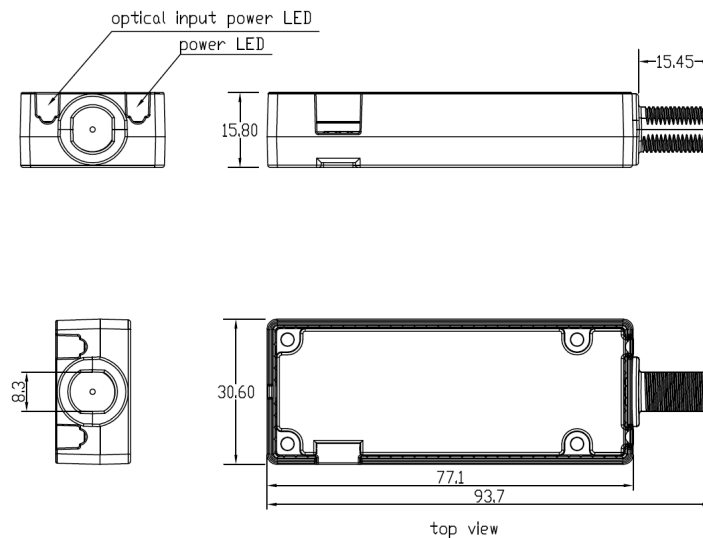
### CATV Disable

The CATV 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 <span style="float: right;">preadjusted for <math>-14 \pm 1 \text{ dBm}</math></span>
CATV Disabled	Power LED: off
CATV Enabled	Power LED: lightening green

### Mechanical Outlines



**Connector Pin Description**

Pin No.	Description	
1	V <sub>CC</sub>	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 Ohms resistance
5	Output Disable	OCR1016E: 10 kOhms pull-up to V <sub>CC</sub> , CATV signal disabled, if connected to GND

Specifications subject to change without notice - DBE\_OCR1016E\_1110622

**FTTx**

**OCR1016E**

**Series**

