

## 13H025BC OECA-ST143

**PIN preamp 25Mbps**  
**1300nm / 1550nm**

### Description

This optical receiver integrates a high sensitive InGaAs-pin photo diode and a low noise transimpedance amplifier (TIA). It is designed for a wide range of logic applications up to 25Mbps. The CMOS-output makes it ideal for sensitive coupling of optical signals directly into logic applications. The device is designed for multimode fiber and HCS fiber with core-diameter up to 200µm.

### Applications

- Digital applications
- Automation environment

### Features

- CMOS compliant
- Data rate from DC up to 25Mbps
- Spectral response 1270 to 1620nm
- Automatic Gain Control
- 33dB optical dynamic range
- Low noise TIA
- Single 5V supply
- Low power consumption



Device can differ from picture. For details and pin out please refer to the drawing.

### Absolute Maximum Ratings

Parameter	Symbol	min.	max.	Unit
Supply Voltage	$V_{DD}$	-0.3	5.25	V
Optical Input Power ( $\lambda = 1550\text{nm}$ )	$P_{max}$		3	dBm
Operating Temperature	$T_{OP} = T_C$	-20	+85	°C
Storage Temperature	$T_{stg}$	-40	+85	°C
Soldering Temperature	$T_{S/ts}$		260/10	°C/s

### Recommended Operating Conditions

Parameter	Symbol	min.	typ.	max.	Unit
Supply Voltage	$V_{DD}$	4.75	5.0	5.25	V

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## Optical and Electrical Characteristics

$T_C=25^{\circ}\pm 2^{\circ}\text{C} / V_{DD}=5\text{V}$

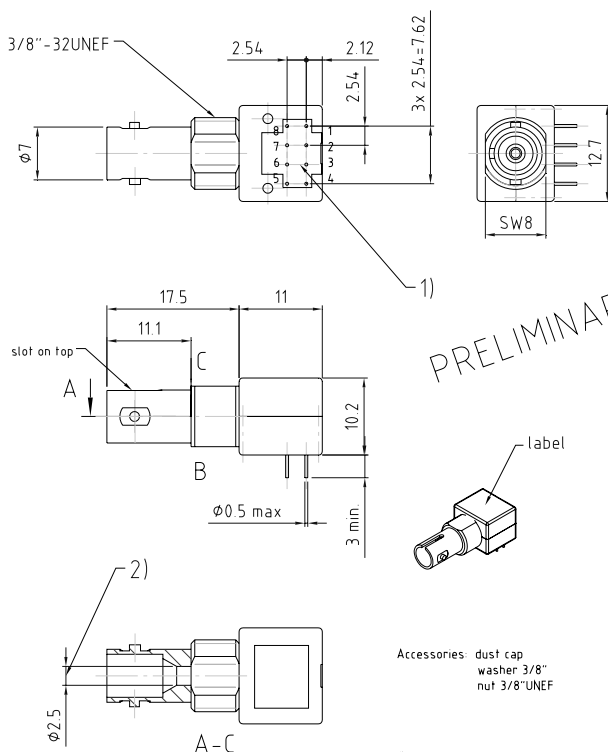
Parameter	Symbol	Condition	min.	typ.	max.	Unit
Output Voltage - high	$V_{OHI}$		$0.7 * V_{DD}$			V
Output Voltage - low	$V_{OLO}$				$0.3 * V_{DD}$	V
Output Current	$I_O$				10	mA
Spectral Response Range	$\lambda$		1270		1620	nm
Data Rate		Note 1	25			MBit/s
Sensitivity	S	$\lambda=1310\text{nm}$ Note 1, 2	-33			dBm
Dynamic Range			33			dB
Power supply Current	$I_{CC}$			35		mA

Note 1: BER= $10^{-9}$  (NRZ), PWD<20%

Note 2: 200/230 $\mu\text{m}$  HCS

Incident power causes high output level (non inverted)

## Drawing (principle)

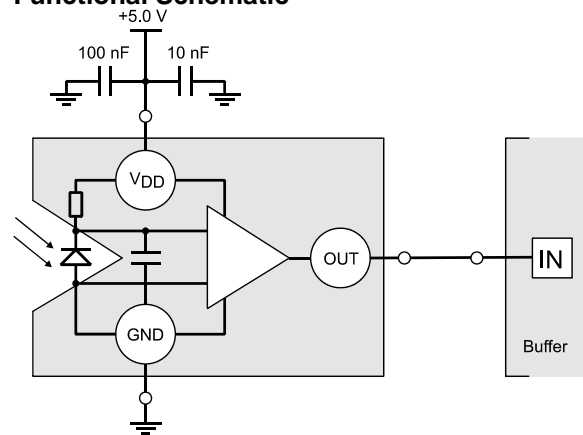


Accessories: dust cap  
washer 3/8"  
nut 3/8"UNEF

1) Pinout acc. to specification  
2) ST receptacle, tolerance grade 3,  
acc. to IEC/DIN EN 61754-2

tolerances acc. to DIN ISO 2768-mH  
all dimensions in mm

## Functional Schematic



## Pin out

Pin	13H025BC
1	nc
2	$V_{DD}$
3	GND
4	nc
5	nc
6	OUT
7	GND
8	nc