

## 13M200CA OECA-ST143C

**PIN preamp 200Mbps**  
**1310 / 1550nm**

### Description

The 13M200CA OECA-ST143C is a high speed PIN-TIA with AGC in a Fiber DIP package with ST- receptacle. It is designed for the connection to Fast Ethernet 100 Base FX. The device is solderable at PCB and designed for fibers with core-diameter up to 62.5µm.

### Applications

- Data transmission, telecommunication
- Sonet, ATM, Fast Ethernet

### Features

- Data rate up to 200Mbps
- 1310nm, 1550nm (InGaAs / InP PIN photo diode)
- Low noise
- Single 3.3V or 5.0V supply
- Low power consumption
- Automatic Gain Control
- RoHS compatible



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	$V_{CC}$	-0.5	+6.0	V
Optical Input Power ( $\lambda = 1310\text{nm}$ )	$P_{max}$	-	+8.0	dBm
Operating Temperature	$T_{OP}$	-40	+85	°C
Storage Temperature	$T_{ST}$	-40	+85	°C
Soldering Temperature	$T_{SOLD}$	-	260/10	°C/s

### Recommended Operating Conditions

Parameter	Symbol	min.	max.	Unit
Supply Voltage	$V_{CC}$	+2.97	+5.5	V
Output Loading	$R_{LOAD}$	50	3k	$\Omega$

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## Optical and Electrical Characteristics

$T_C=25^{\circ}\text{C} \pm 2^{\circ}\text{C} / V_{CC}=3.3\text{V}$

Parameter	Symbol	Condition	min.	typ.	max.	Unit
Responsivity, differential	R	Note 1, 2	-	18	-	kV/W
Differential output voltage	$V_{OD}$	Note 2, 3	-	-	375	mV
Spectral response range	$\lambda$		1270	-	1620	nm
Bandwidth ( 3 dB <sub>el</sub> )	BW	Note 4	-	165	-	MHz
Low frequency cut-off	LFC		-	-	25	kHz
Sensitivity ( BER = $10^{-10}$ )	S	ER = >10dB	-	-40.5	-38.5	dBm
Saturation (input overload)		BER= $10^{-10}$ ER > 10dB	+1.0	+3.0		dBm
Dynamic range		BER= $10^{-10}$	40	-	-	dB
Output resistance ( per side )	$R_O$		35	50	65	$\Omega$
Power supply current	$I_{CC}$	Note 2	14	23	32	mA
Output common-mode voltage	-		0.86	0.97	1.09	V

Source: 1310nm; Fiber 62.5/125 $\mu\text{m}$   
Incident power increases  $V_{OUT+}$  and decreases  $V_{OUT-}$ .

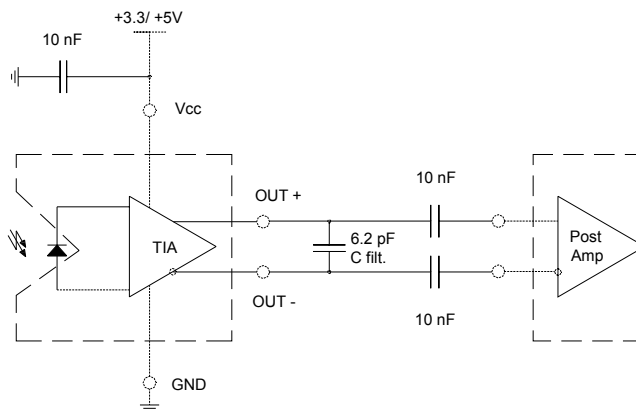
Note 1:  $P_f = 10\mu\text{W}$  Peak-Peak power at 10 MHz 50% duty cycle

Note 2:  $R_L = 1\text{M}\Omega$  - measured into High-Z

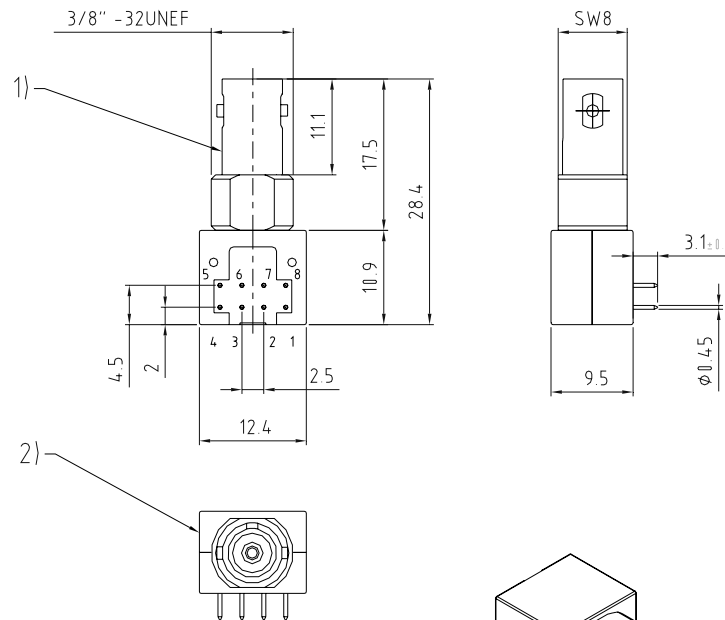
Note 3:  $P_f = +3\text{dBm}$  Peak-Peak power

Note 4: Bandwidth measured to optical -3dB point with a -40dBm input signal.

## Functional Schematic / Typical Application Circuit



## Drawing



- 1) ST metal flange acc. to IEC / DIN EN 61754-2  
sleeve grade 3  
2) housing PA6.6 black

Pinout acc. to specification  
not connected pins (n/c) could be leaved out  
tolerances +/-0.1 unless otherwise stated

accessories: dust cap

all dimension in mm

## Pin-Out

Pin	13M200CA
1	n/c
2	Out+
3	n/c
4	Out-
5	n/c
6	V <sub>CC</sub>
7	GND
8	n/c

Accessories: dust cup, washer 3/8", nut 3/8" UNEF