10G 850 nm SC-ROSA WITH FLEX CABLE

PRELIMINARY TECHNICAL SPECIFICATIONS

REV:**01**

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PART NUMBER: 8100014001

ADoptix

FEATURES:

- Single + 3.3 V power supply
- Operates to 10Gbps NRZ rates
- Transimpedance gain 7 kΩ into 100Ω differential load
- RSSI (Received Signal Strength Indicator) current output operates from Sensitivity to overload.
- Package with/without flex cable are available

APPLICATIONS:

- 10GBASE-SR
- 8XFC

ABSOLUTE MAXIMUM RATINGS

PARAMETER	RATING
Storage Temperature	-40°C ~ + 100°C
Operating Temperature (ROSA case)	-40 ℃ ~ +85°C
Max Supply Voltage(Vcc-GND)	-0.3 V ~4.0 V
Voltage at either output	-0.3 V ~ 4.0 V
Peak Input Optical Power	+ 6.5 dBm
FPC Soldering Temperature	260°C(Max)
FPC Soldering Duration	10sec(Max)
ESD Level(HBM)	2000V

RECOMMENDED OPERATING CONDITIONS

PARAMETER	RATING
Operating Case Temperature	-40°C ~ + 85°C
Vcc	2.97~3.63V.
Operation Wavelength Range	770~860nm

ELECTRICAL CHARACTERISTICS

(Unless otherwise specified, T_A= -40~85 °C)

Parameter	Symbol	Min	Typ.	Max	Unit	Conditions
Icc current	I_{cc}	21	28	41	mA	
Differential impedance	Z	80	100	120	Ω	
Bandwidth (3dB)	BW	7	10		GHz	
Low frequency cutoff	BW_L		30	100	kHz	
Differential Transimpedance	T_Z	5	7	10	kΩ	
RSSI output offset(no light)	Ioffset	3.5	10	16	uA	
RSSI current gain	Imon Gain	0.4	0.5	0.6	A/A	
Maximum Differential output voltage	V_{outmax}	240	280	350	mVp-p	

OPTICAL CHARACTERISTICS

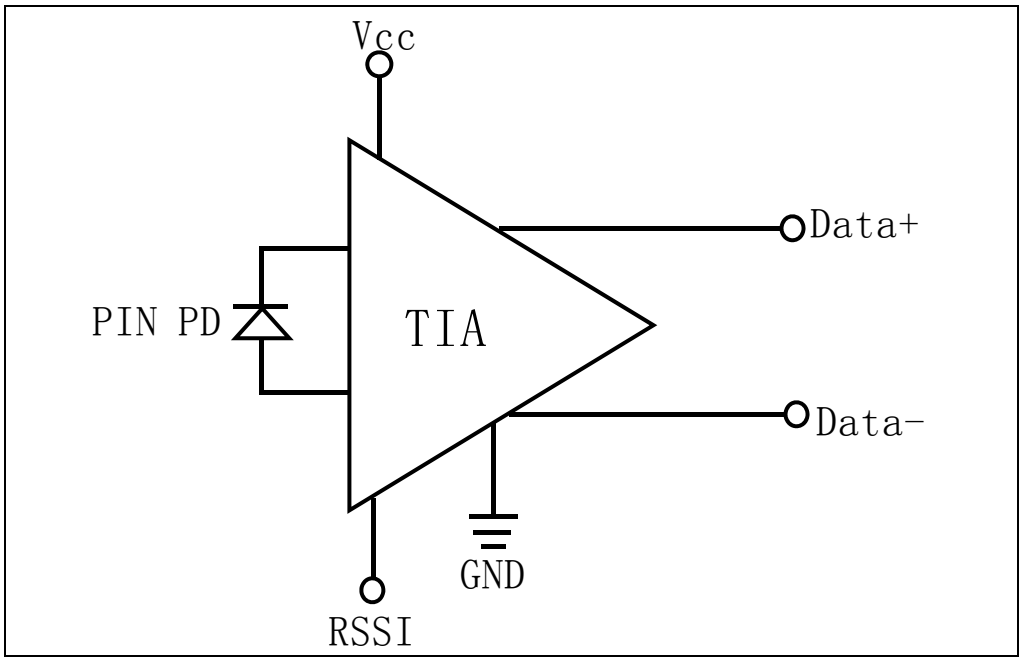
(Unless otherwise specified, T_A= -40~85°C)

Parameter	Symbol	Min	Typ.	Max	Unit	Conditions
Responsivity	R	0.45	0.55		A/W	λ=850nm,
Average unstressed optical sensitivity	Psens (UNST)	-	-15.5	-13.0	dBm	850 nm 10.3125Gbps, NRZ,PRBS=2^31-1, BER=10^-12, ER=7dB,(Note1,2)
OMA stressed sensitivity	Psens (Stressed)	-	-11.5	-8.5	dBm	
Optical overload(OMA)	Povrld	+2.5	+4.5		dBm	(Note1)

Note:

1. Typical values defined as a typical process, case temperature at 25^{O}C and Vcc at 3.3 V while maximum and minimum values are under worst or best case process, power supply and junction temperature for the parameter specified.
2. The state performance should be achievable dependent upon the RF environment in which the user packages the ROSA.

ELECTRICAL BLOCK DIAGRAM



Notes:

1. PIN PD is biased from TIA internally.
2. RSSI is current source mode.

MECHANICAL DIMENSION AND PIN ASSIGNMENT (Dimension in mm)

10G 850nm SC ROSA with flex cable