

Up to 50 Gbit/s 900–1350 nm High Speed Receiver Optical Subassembly (ROSA)



Sample image only. Actual product may vary

Product Code: R50-1300

Preliminary

Product Description

The R50-1300 receiver optical subassembly (ROSA) utilizes a PIN photodetector and transimpedance amplifier (TIA) integrated in a square size 5.6mm package. The multi mode fiber coupled ROSA is designed for short reach ultrahigh-speed data communication applications of up to 50Gbit/s. Each part is electro-optically tested to ensure a maximum performance.

Features

- Up to 50 Gbit/s data rate
- Small size package
- Low power consumption

Applications

- 50G / 100G short reach transceivers
- Proprietary optical interconnects
- Research and development

Parameter	Typical (PD chips)	Notes
Operating Wavelength	900 ~ 1350 nm	
3 dB Bandwidth	≥ 30 GHz	
Rise time (20% to 80%)	6 ps	
Dark Current	< 10 pA	
Maximum input power	1 mW @ 1310 nm	

All product specifications and descriptions are subject to change without notice.

Please contact our sales department for additional information and to receive a quotation: sales@v-i-systems.com

Electro-optical characteristics (at T_{case} = 25 °C)

Preliminary

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Wavelength responsivity	λ		900	1310	1350	nm
Case operating temperature	T _{op}		-10		85	°C
Supply voltage	V _{cc}		3.3		3.4	V
Supply current	I _{cc}		34	45	61	mA
Bandwidth	BW			30		GHz
Low frequency cutoff					70	kHz
Sensitivity (OMA)	S			-13	-12	dBm
Output resistance	R _o			100		Ω
Differential output voltage	V _{out}	1310nm		400		mV
Duty cycle distortion				1	10	%
Rise/Fall time	T _R / T _F		9		10	ps

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Storage temperature	T _{st}	-40	+90	°C
Lead solder temperature	T _s		260° for 10 sec	°C
Incident optical power	P _{in}		+5	dBm
Power supply voltage	V _p		4.0	V

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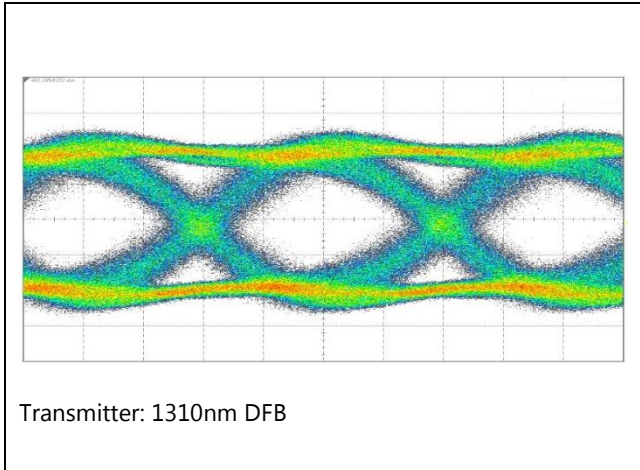
Datasheet

R50-1300

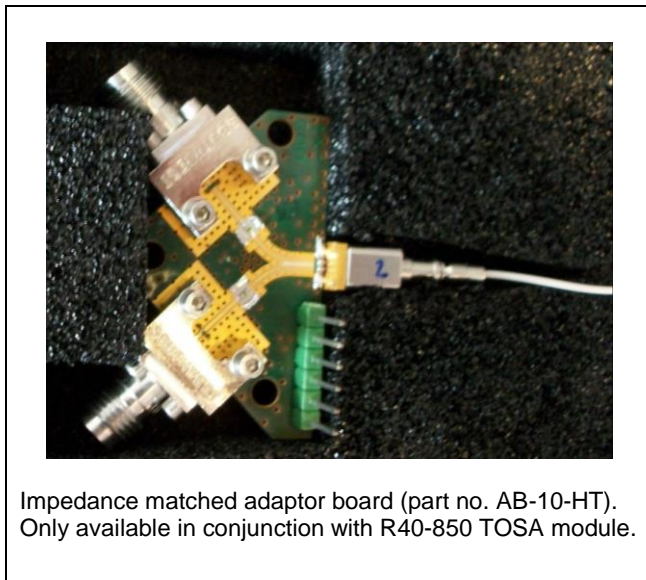


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Eye diagram at 50 Gbit/s (1310nm)



Optional adaptor board



Pin description for AB-10-HT adaptor board



Pin#	Signal	Description
1	Vcc	supply voltage for TIA 3.3 V
2	--	not used
3	--	not used
4	Ving	crossing adjustment 0...3 V
5	Vmod	amplitude adjustment 0...3 V
6	V _{PD}	bias voltage for PD 2...5 V

Ground is to be supplied by the RF connectors

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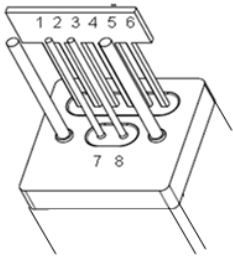
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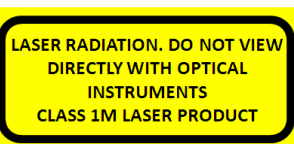
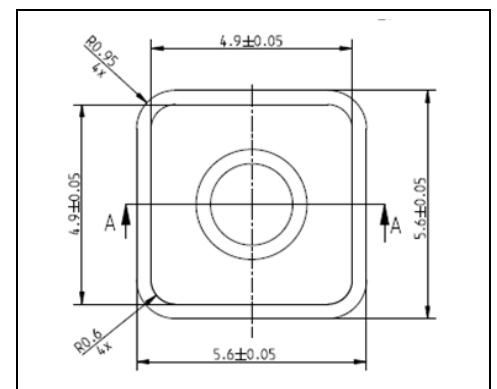
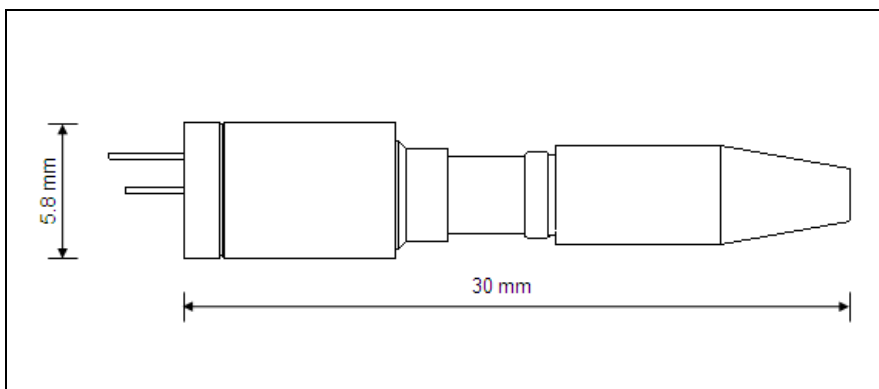
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Pin out



Pin#	Signal	Description
1	V _{PD}	Bias voltage for PD
2	V _{mod}	Amplitude adjustment
3	V _{xing}	Crossing point adjustment
4		Amplitude adjustment 0...3 V
5	GND	Ground
6	V _{cc}	Supply voltage TIA
7	OUT1	Diff. HF output
8	OUT2	Diff. HF output

Dimensions



VI Systems GmbH

Hardenbergstrasse 7
10623 Berlin

Tel.: +49 30 3083143 30

Fax: +49 30 3083143 59

sales@v-i-systems.com

www.v-i-systems.com



www.facebook.com/VISystems

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VI Systems GmbH Hardenbergstrasse 7 D-10623 Berlin

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