

Up to 40 Gbit/s 850nm VCSEL Transmitter Optical Subassembly (TOSA)



Sample image only. Actual product may vary

Product Code: T40-850

Preliminary

Product Description

The T40-850 transmitter optical subassembly (TOSA) combines an 850nm VCSEL and an optional driver IC integrated in a TO package coupled with a 50/125 μm multimode fiber. The T40-850nm is designed for high speed data communication applications in optical transceiver modules. The device is configured for differential drive and a controlled impedance circuit is available for optimum performance.

Features

- 28 Gbit/s and 40Gbit/s data rate
- 50/125 μm multimode fiber
- FC /PC optical output connector
- Differential signal input
- Anritsu V electrical connector
- small size package
- low cost design
- LC receptacle

Applications

- 28 Gbit/s short reach transceivers
- 40G / 100G short reach transceivers
- Proprietary optical interconnects
- Research and development

Parameter	Typical (PD chips)	Notes
Emission Wavelength	850 nm	
Data rate	up to 40 Gbit/s	
Supply Voltage	3.3V	
Power consumption	130mW	

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
VCSEL						
Peak emission wavelength	λ	P _{out} = 0.5mW	840	850	860	nm
Case operating temperature	T _{op}		-10		85	°C
RMS spectral width	$\Delta\lambda$	P _{out} = 0.5mW			0.4	nm
λ_p temperature coefficient	$\Delta\lambda_p$			0.06		nm/°C
Relative intensity noise	RIN	40 Gbit/s			130	dB/Hz
Rise/Fall time	T _r	P _{out} = 0.5mW		8		psec
	T _f	40 Gbit/s		9		psec
		20-80%				
Threshold current	I _{th}			0.7		mA
I _{th} temp variation	ΔI_{th}	T = -10 °C to 85 °C		+1.0	+2.0	mA
Laser forward voltage	V _f	P _{out} = 0.5mW		2.2		V

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
Laser forward current 85°C	I _F		7	mA
Laser reverse voltage	V _{R, RD}		-2	V
ESD (Human Body Model)	T _r		Class 1	

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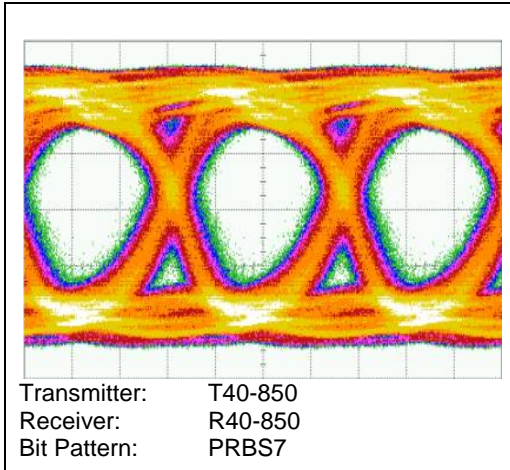
Datasheet

T40-850

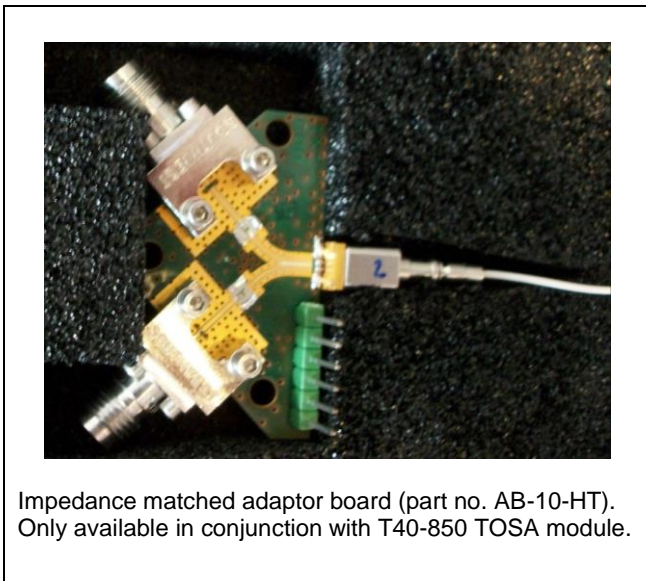


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Eye diagram at 40 Gbit/s



Optional adaptor board



Pin description for AB-10-HT adaptor board



Pin#	Signal	Description
1	Vcc	Power Supply for driver 3.3 V
2	--	not used
3	Xing	Crossing adjustment 0...3 V
4	Vmod	Amplitude adjustment 0...3 V
5	Vbias	Bias current control 0...3 V
6	--	not used

Ground is to be supplied by the RF connectors

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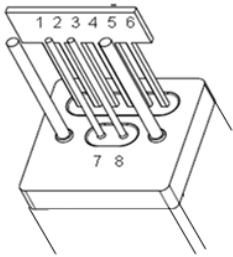
Datasheet

T40-850



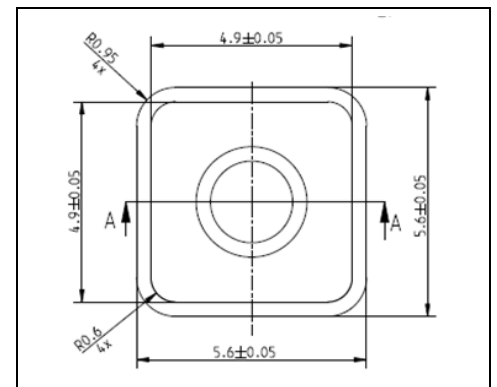
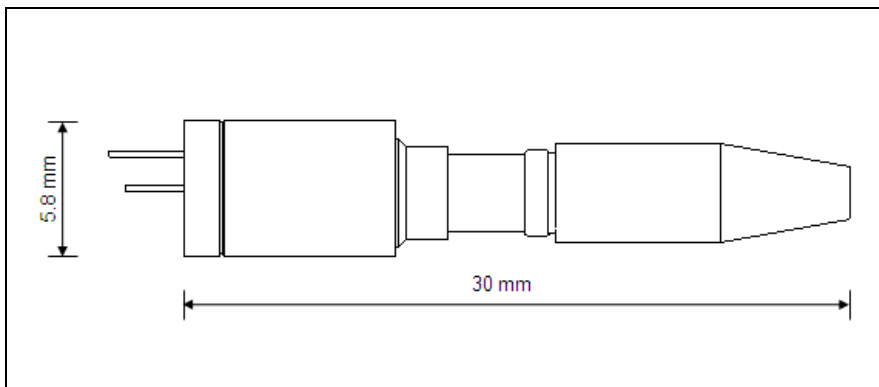
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Pin out



Pin#	Signal	Description
1	Vcc	Power Supply for driver 3.3 V
2	--	not used
3	Xing	Crossing adjustment 0...3 V
4	Vmod	Amplitude adjustment 0...3 V
5	Vbias	Bias current control 0...3 V
6	--	not used
7	IN 1	HF input (high)
8	IN 2	HF input (low)

Dimensions



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