

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

Product Code: T40-850



Sample image only. Actual product may vary.

Product Description

Preliminary

The T40-850 transmitter optical subassembly (TOSA) combines a 850nm VCSEL and an optional driver IC integrated in a TO package coupled with a 50/125 μm multi mode 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

- 25G and 40 Gbit/s data rate
- very small size package
- low cost design
- fiber coupled 50/125 μm or
- LC receptacle

Applications

- 16 Gbit/s and 25 Gbit/s short reach transceivers
- 40G / 100G short reach transceivers
- Proprietary optical interconnects
- Research and development

Parameter	Typical (PD chips)	Notes
Emmission 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.

Electro-optical characteristics (at Tcase = 25 °C)

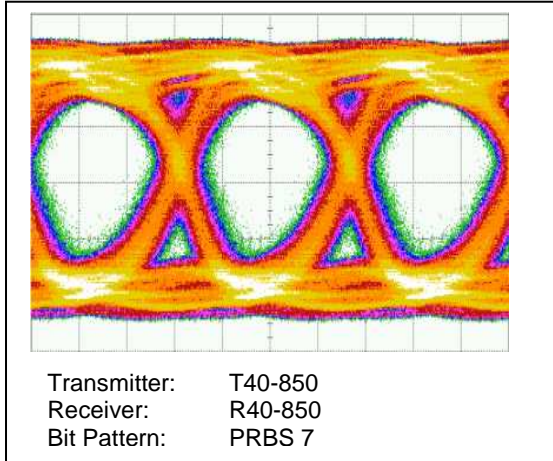
Preliminary

Parameter VCSEL	Symbol	Test Condition	Min	Typ	Max	Unit
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

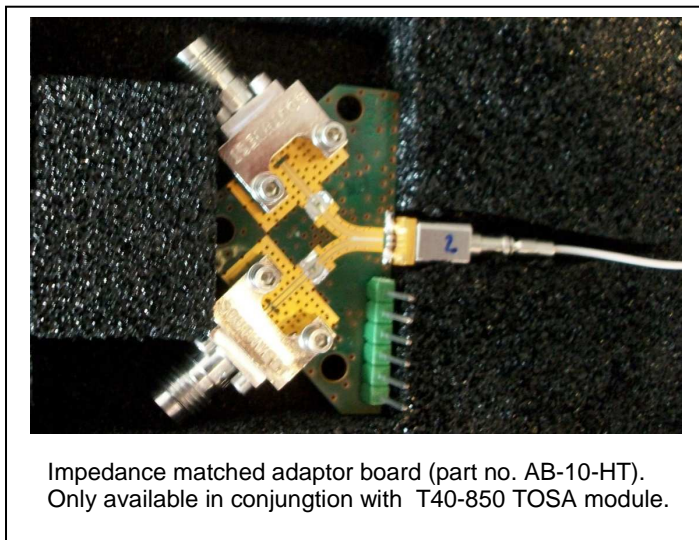
Parameter	Symbol	Min	Max	Unit
Storage temperature	T_{St}	-40	+90	°C
Lead solder temperature	T_s		260° for 10 sec	°C
Laser forward current 85°C	I_F		7	mA
Laser reverse voltage	V_{RD}		-2	V
ESD (Human Body Model)	T_r		Class 1	

40 Gbit/s eye pattern diagram

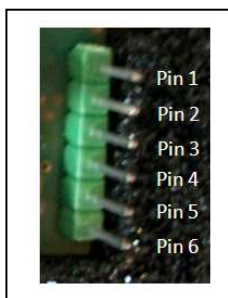


Preliminary

Optional adaptor board



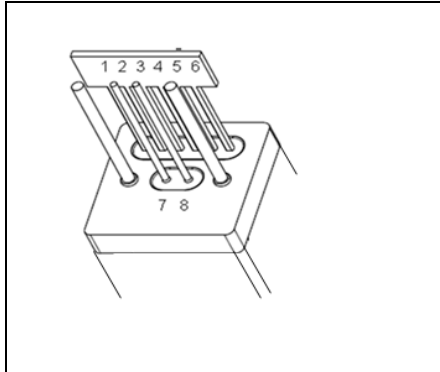
Pin description for AB-10-HT adaptor board



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
6	--	not used

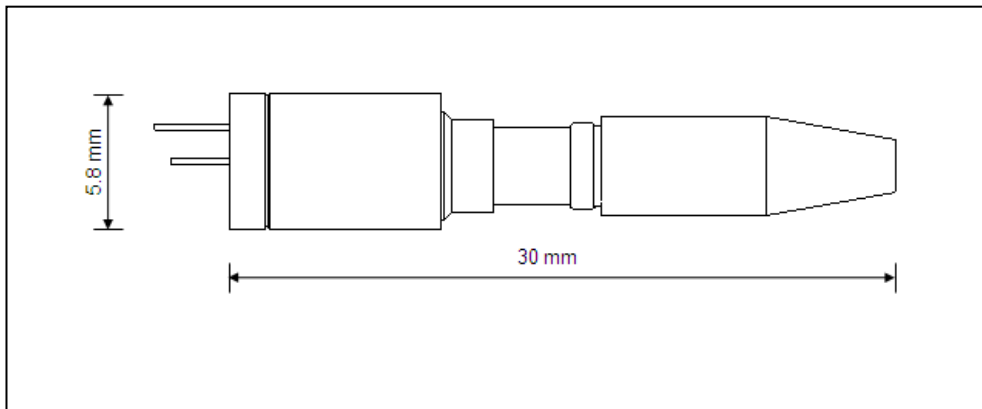
Ground is to be supplied by the RF connectors

Pin out

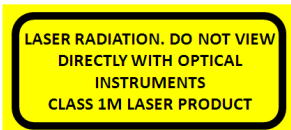
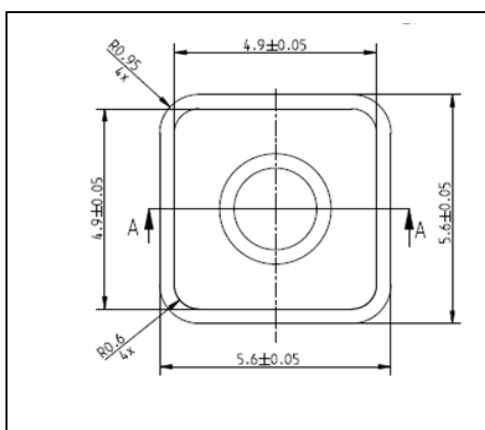


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6		
7	IN high	HF input (high)
8	IN low	HF input (low)

Dimensions



Dimensions (front)



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