1.25Gbps DFB-LD/PIN+TIA BOSA Transceiver

GBOSA series Bi-directional Optical Subassembly (BOSA) transceivers are single fiber bi-direction transceiver modules working at either 1310nmT/1550nmR or 1310nmR/1550nmT. 1310nm or 1550nm InGaAsP/InP MQW DFB laser diode and wide dynamic range PIN+TIA ensure transmission applications up to 1.25Gb/s. The built-in 1310nm/1550nm WDM filter has excellent isolation and return loss. Laser welding technology enables BOSA transceiver to be highly reliable in various circumstances.

Features:

- 1.25Gb/s Bi-directional Optical Subassembly (BOSA) with 1310nm (1550nm) DFB LD Transmitter and 1550nm (1310nm) PIN+TIA Receiver
- Built in 1310nm/1550nm WDM Filter
- 1490nm Wavelength Optional
- With AGC Transimpedance Amplifier
- Wider Operating Temperature Range: 0℃-+70℃
- Small Size, 6.8×6.8mm Housing
- Heat Resistance and Laser Welding.
- High Reliability
- Complied with Telcordia GR-468
- Complied with RoHS

Absolute maximum ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Operating Temperature Range	Top	0	-	+70	℃
Storage Temperature Range	Tstg	-40	-	+85	℃
Soldering Temperature Tmax= 10s	Ts	-	-	260	℃
LD Forward Current	Ifl	-	-	100	mA
LD Reverse Voltage	Irl	-	-	2	V
PD Monitor Reverse Voltage	Vrm	-	-	15	V
PIN+TIA Power Supply Voltage	Vcc	3.1	3.3	3.5	V
PIN+TIA Supply Current	Icc	-	-	40	mA

Electrical and optical characteristics (Tc=+25°C)

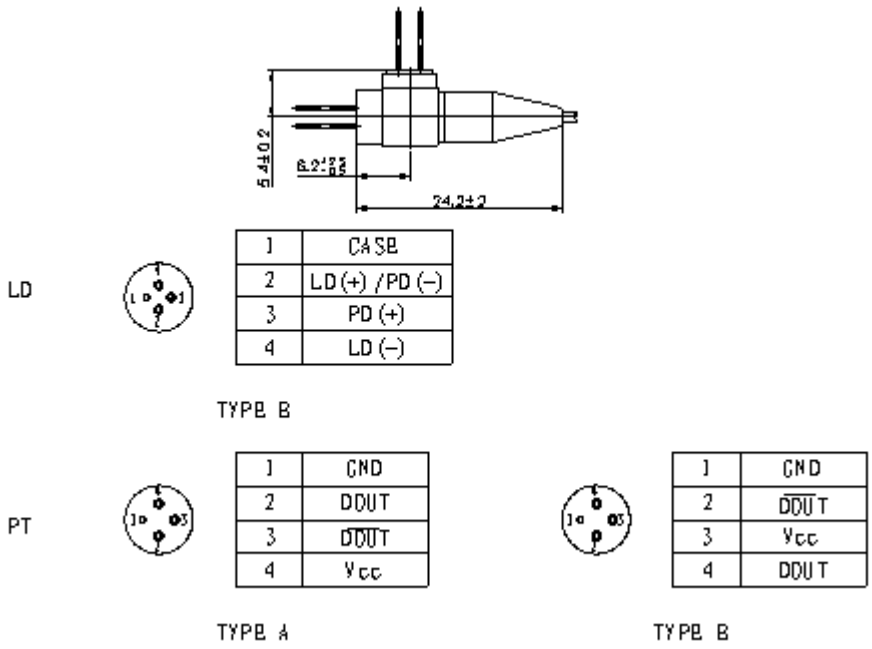
Transmitter Specifications

Description	Symbol	Min.	Typ.	Max.	Unit	Note
Threshold Current	Ith	-	10	15	mA	T=25℃ CW
Operating Voltage	Vop	-	1.2	1.6	V	CW
Average Launch Power （Ith +20mA）	Po	-	-	0.6	mW	T=25℃ CW
		0.6	-	1.0		
		1.0	-	-		
Operating Wavelength	λc	1290	1310	1330	nm	T=25℃ Ith +20mA CW
		1530	1550	1570		
RMS Spectrum Width	Δλ	-	-	1.0	nm	T=25℃ Ith +20mA CW
Side Mode Suppression Ration	SMSR	30	35	-	dB	Ith +20mA CW
Rise and Fall Times	Tr/Tf	-	-	0.3	ns	If = Ith, Ith +20mA, 20-80%
PD Monitor Current	Im	100	-	-	uA	Ith +20mA, Vrd=1V CW
PD Monitor Dark Current	Id	-	-	0.2	uA	Vrd=5V
PD Monitor Capacitance	Ct	-	10	15	PF	Vrd=5V, f=1MHz
Optical Return Loss Tolerance		15	-	-	dB	
Tracking Error	TE	-1.5	-	1.5	dB	

Receiver Specifications

Description	Symbol	Min.	Typ.	Max.	Unit	Note
Operating Wavelength	λc	1520	1550	1580	nm	T=25℃
		1280	1310	1340		
Saturate Power	Psat	-3	-	-	dBm	T=25℃
Sensitivity	Pmin	-	-	-24	dBm	PRBS7 BER=10^{-10}, Er=9dB @1.25Gbps
Power Supply	Vcc	3.1	3.3	3.5	V	
Supply Current	Icc	-	-	40	mA	No loads
Bandwidth	BW	750	-	-	MHz	Small signal
Output Impedance	Rout	-	50	65	Ω	Single ended
Differential Gain	G	6	-	10	V/mv	Load 50Ω
Damage Threshold	Pd	0	-	-	dBm	
Optical Cross Talk	CT	-	-	-40	dB	1310nm/1550nm
Optical Return Loss	RL	-	-	-25	dB	

Mechanical Dimension and Pin Assignment



Unit:mm

Tolerance: ±0.1mm, unless otherwise noted.

Ordering Information

GBOSA-WR-X-Y-Z-D 1.25Gb/s Bi-Directional Optical Subassembly Transceiver with Pigtail

W (Transmitting Wavelength): 3_1310nm, 4_1490nm, 5_1550nm

R (Receiving Wavelength): 3_1310nm, 4_1490nm, 5_1550nm

X (Output Power): L_<0.4mW, M_0.4~0.8mW, H_>0.8mW

Y (Data Rate): 1_1.25Gb/s, 2_2.5Gb/s

Z (PIN+TIA Packing Type): A or B

D (Pigtail Connector): SU_SC/UPC, FU_FC/UPC, SA_SC/APC, FA_FC/APC