

1310 nm 10Gbps DFB Laser TOSA W/ Flex board & Isolator

BI5A-9FM2-xxx Series

TYPE NAME: BI5A-9FM2-xxx (BT-GD31-xx)

Product Description

The 10Gb/s DFB Laser TOSA (Transmitter Optical Sub-Assembly) is designed for 40GBASE QSFP+ PSM4, This device integrates a high performance Distributed Feedback (DFB) laser diode with an Edge Monitor PD as laser power monitor inside TOSA. It features very low threshold current with an adequate output power over a wide range of operating temperatures.

Product Specifications

Absolute Maximum Ratings

Parameter	Symbol	Units	Min.	Max.	Notes
Operating Temperature (case)	Top	°C	-5	+85	Case temperature
Storage Temperature	Tstg	°C	-40	+85	
Solder Reflow Temperature	STEM	°C	-	260	5 seconds max.
Laser Reverse Voltage	VL _{RL}	V	-	2	
Laser Forward Current	IL _{FL}	mA	-	70	
Photodiode Reverse Voltage	VP _{RL}	V	-	15	
Photodiode Forward Current	IL _{RL}	mA	-	10	

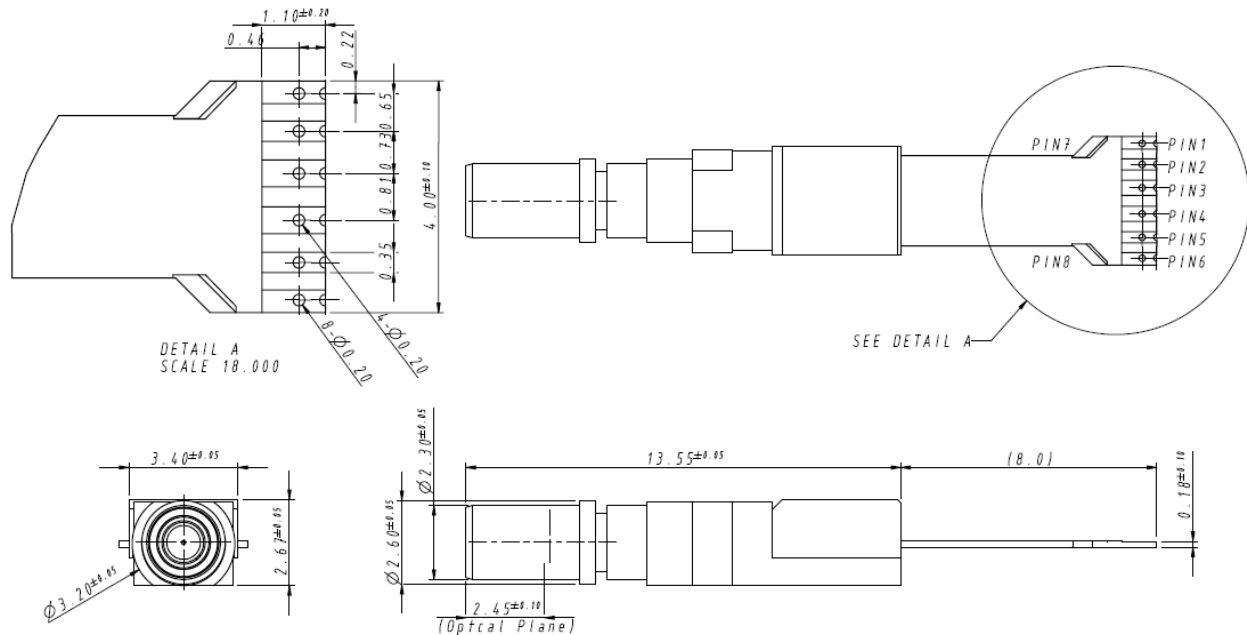
Electro-Optical Characteristics (T = 25°C, unless noted otherwise)

Parameter	Symbol	Units	Min.	Typ.	Max.	Test condition
Threshold Current	I _{th}	mA	-	10	15	CW, Ta = 25°C
Forward Voltage	V _f	V	-	1.5	2	CW, Ta = 25°C
Optical Output Power	SMF P _{FR}	uW		800		CW, Ta = 25°C, I _{op} = 35mA
Peak Wavelength	λ	nm	1295	1310	1325	Tc = -5 ~ 85°C
Spectral Wavelength	Δλ	nm			1	(RMS 20dB), I _{op} = 35mA Kr = 1, Ta = 25°C
Side Mode Suppression Ratio	SMSR	dB	30			Tc = -5 ~ 85°C, I _{op} = 35mA Scan Resolution 0.2nm
Rise/Fall Time	tr ,tf	ps		50		Tc = -5 ~ 85°C 20% to 80%
RIN OMA	RIN ₁₂ OMA	dB/Hz			-128	ORL=12dB
Optical Return Loss	ORL	dBm			-20	λ= 1310nm
Tracking Error	TE	dB	-1.5	-	1.5	Im @ I _{op} = 35mA at Ta = 25°C, ΔPf (Ta = 25°C/Tc = 85°C) and ΔPf (Ta = 25°C/Tc = -5°C) @ the same Im

Photodiode Characteristics (T = 25°C, unless noted otherwise)

Parameter	Symbol	Units	Min.	Typ.	Max.	Test condition
PD Monitor Current	I _{pd}	uA	50	150	-	CW, T _c = -5°C and T _a = 25°C, I _{op} =35mA; T _c = 85°C, V _R = 1.5V
PD Dark Current	I _d	nA	-	-	2	V _R = 5 V
PD Capacitance	C	pF	-	-	7	V _R =5 V, f=1MHz

BI5A-9FM2-xxx
Dimensions: (mm)

All dimensions are nominal


*Notes: Case ground is electrically isolated from signal ground

Flex Board Pin Assignment (Top View)

BI5A-9FM2-xxx	
Number	Function
Pin1	PD-
Pin2	GND
Pin3	LD+
Pin4	LD-
Pin5	GND
Pin6	PD+
Pin7	GND
Pin8	GND