

T1490DFB/R1550nm 1.25G LC BOSA(Built-in Isolator)

FB-B54F3ASL-00

Features:

High stability DFB laser chip
InGaAs/InP PIN detector with TIA
Built-in isolator
Operate temperature from -40°C to +85°C
LC Receptacle

Specification:

Absolute Maximum Ratings

Parameter	Symbol	Condition	Min	Max	Unit
Operating Case Temperature	T _c	--	-40	85	°C
Storage Temperature	T _{stg}	--	-40	85	°C
Lead solder Temperature	--	--		260	°C
Lead Soldering Time	--	--		10	s

Optical/Electrical Characteristics (T=25°C, unless otherwise stated)

1490nm DFB Laser Transmitter

Parameter	Symbol	Min	Typ	Max	Unit	Test Conditions
Optical Output Power	P _o	1.0	--	3.0	mW	CW, I _{op} =30mA
Threshold Current	I _{th}	--	10	15	mA	T=25 °C
Forward Voltage	V _F	--	1.1	1.6	V	
Operating Current	I _{op}	--	30	40	mA	CW, T=25 °C
Center Wavelength	λ _c	1470	1490	1510	nm	CW, T=25 °C
Spectral Width (-20 dB)	Δλ	--	0.1	1.0	nm	
Wavelength temperature coefficient	Δλ/ΔT		0.08	0.12	nm/°C	
Side-Mode Suppression Ratio	SMSR	35	40		dB	I _{op} =30mA
Isolator		35			dB	
Relaxation Oscillation Frequency	f _R	--	4.5	--	GHZ	I _{op} =30mA
Rise/Fall Times	t _R , t _F	--	--	0.1	ns	20% to 80%
Monitor Current	I _{mon}	100	--	1000	μA	V _R =5 V,
Monitor Dark Current	I _D	--	--	200	nA	V _R =5 V

1550nm 1.25Gbps Receiver

Parameter	Symbol	Min	Typ	Max	Unit	Test Conditions
Supply Voltage	VCC	3.0	3.3	3.6	V	
Supply Current	ICC	-	30	40	mA	No loads
Differential responsivity	R _d	9.6	--	32	mV/uW	R _{load} =100 Ω, λ=1550nm, P= -24dBm
Single ended responsivity	R _s	4.8	--	16	mV/uW	R _{load} =50 Ω, λ=1550nm, P= -24dBm
Small-Signal Bandwidth	Bw	700	-	-	MHZ	λ = 1550 nm, Pf=10uW
Low-Frequency Cut off	LF	--	--	115	KHZ	
Rise /Fall Time(20%~80%)	Tr/f		300	400	ps	λ = 1550 nm, P= -24dBm

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Saturation Power	Psat	0			dBm	$\lambda=1550\text{nm}$
Wavelength	λ	1530	1550	1570	nm	
Single ended output impedance	Ro	35	50	65	ohm	
Sensitivity		--	--	-24	dBm	$\lambda = 1550 \text{ nm}, 1.25\text{Gbps},$ PRBS7, ER=10dB, BER=1E-10

Dimensions And Package Outline

