

## T1550DFB/R1490nm 1.25G SC BOSA (Built-in Isolator)

### FB-C44F3ASS-00

**Features:**

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

**1550nm DFB Laser Transmitter**

Parameter	Symbol	Min	Typ	Max	Unit	Test Conditions
Optical Output Power	$P_o$	1.0	--	2.0	mW	CW, $I_{op}=30mA$
Threshold Current	$I_{th}$	--	10	15	mA	$T=25\text{ }^\circ\text{C}$
Forward Voltage	$V_F$	--	1.1	1.6	V	
Operating Current	$I_{op}$	--	30	40	mA	CW, $T=25\text{ }^\circ\text{C}$
Center Wavelength	$\lambda_c$	1530	1550	1570	nm	CW, $T=25\text{ }^\circ\text{C}$
Spectral Width (-20 dB)	$\Delta\lambda$	--	0.1	1.0	nm	
Wavelength temperature coefficient	$\Delta\lambda/\Delta T$		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	$\mu A$	$V_R=5\text{ V}$ ,
Monitor Dark Current	$I_D$	--	--	200	nA	$V_R=5\text{ V}$

**1490nm 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	$R_{load}=100\ \Omega$ , $\lambda=1490nm$ , $P=-24dBm$
Single ended responsivity	$R_s$	4.8	--	16	mV/uW	$R_{load}=50\ \Omega$ , $\lambda=1490nm$ , $P=-24dBm$
Small-Signal Bandwidth	Bw	700	-	-	MHZ	$\lambda = 1490\text{ nm}, P_f=10uW$
Low-Frequency Cut off	LF	--	--	115	KHZ	
Rise /Fall Time(20%~80%)	$Tr/f$		300	400	ps	$\lambda = 1490\text{ nm}, P=-24dBm$

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Saturation Power	Psat	0			dBm	$\lambda=1490\text{nm}$
Wavelength	$\lambda$	1450	1490	1510	nm	
Single ended output impedance	Ro	35	50	65	ohm	
Sensitivity		--	--	-24	dBm	$\lambda = 1490 \text{ nm}$ , 1.25Gbps, PRBS7, ER=10dB, BER=1E-10

**Dimensions And Package Outline**

