
850 nm 10Gbps SC-TOSA WITH FLEX CABLE

PRELIMINARY TECHNICAL SPECIFICATIONS

REV:01

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PART NUMBER: 8090015401

FEATURES:

- Operates to 10Gbps NRZ rates
- Differential driven
- Low electrical parasitic TO package
- Package with flex cable or without flex cable are available

APPLICATIONS:

- 10GBASE-SR
- 8XFC

ABSOLUTE MAXIMUM RATINGS

PARAMETER	RATING
Storage Temperature	-40°C ~ + 85 °C
Operating Temperature	-5 °C ~ +75 °C
FPC Soldering Temperature	260°C(Max)
FPC Soldering Duration	10sec(Max)
Reverse Vf(VSCEL)	8v(Max)
Reverse Vf(Monitor PD)	25v(Max)
ESD Level(HBM)	100v

RECOMMENDED OPERATING CONDITIONS

PARAMETER	RATING
Operating Case Temperature	-5°C ~ + 75°C
VCSEL operating current	0~12mA

ELECTRO-OPTICAL CHARACTERISTICS

(Unless otherwise specified, $T_A = 25\text{ }^{\circ}\text{C}$)

VCSEL Parameter	Symbol	Min	Typ.	Max	Unit	Conditions
Peak Wavelength	λ_p	840	850	860	nm	$I_{op}=6\text{ mA}$;
λ_p Temperature variation	$\Delta\lambda_p/\Delta T$		0.07		nm/ $^{\circ}\text{C}$	
RMS spectrum Bandwidth	$\Delta\lambda$		-	0.45	nm	$I_{op}=6\text{ mA}$;
Threshold Current	I_{th}	0.3	0.8	1.6	mA	$T=-5\sim 75\text{ }^{\circ}\text{C}$
Rise time/Fall time	T_R/T_F		30/45	55	ps	$I_{op}=6\text{ mA}$; ER=5 dB; (20-80%)
Laser Forward Voltage	V_F	1.6	2.0	2.4	V	$I_{op}=6\text{ mA}$; $T=-5\sim 75\text{ }^{\circ}\text{C}$
Slope Efficiency	η	0.11		0.155	W/A	
Slope Efficiency	η	0.07	0.13	0.19	W/A	$T=-5\sim 75\text{ }^{\circ}\text{C}$
Slope efficiency temperature variation	$\Delta\eta/\Delta T$		-0.6		%/ $^{\circ}\text{C}$	
Effective Circuit Resistance	R_S	70	85	100	Ω	
Relative Intensity Noise	RIN		-130	-120	dB/Hz	

(Unless otherwise specified, $T_A = 25\text{ }^{\circ}\text{C}$)

Monitor Photodiode Parameter	Symbol	Min	Typ.	Max	Unit	Conditions
Monitor Diode Current	I_{PD}	200	500	900	μA	$P_{oc}=0.5\text{ mW}$
Dark current	I_{dark}			20	nA	$V_R=2\text{ V}$
Tracking Error	T/E	-1.0		1.0	dB	Fixed Power=0.5mW $T_A = -5\text{ }^{\circ}\text{C}$ to $75\text{ }^{\circ}\text{C}$,

10G 850nm SC TOSA with flex cable

