EXS7505-8411

750nm UNCOOLED
TOSA Package

Revision: 1.1
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Confidentiality: None

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CONTENTS

1. SCOPE

1.1 PURPOSE

The purpose of this document is to specify the electro-optical performance and dimensions of superluminescent light emitting diode (SLED) TOSA.

1.2 RESPONSIBILITY

EXALOS is responsible for establishing, implementing and maintaining this procedure. The Quality representative shall ensure that a timely Engineering Change Notice (ECN) is issued in accordance with EXALOS procedure for any changes.

2. REFERENCE DOCUMENT

- EXS-WI-0001 Visual Inspection Criteria SLED Chip on Submount Procedure
- MIL STD 883 C method.
- Bellcore GR-468-CORE

3. ELECTRO-OPTICAL PERFORMANCE (T_{SLED} = 25°C)

Parameter	Symbol	Min	Typ	Max	Unit
Operating Current	I_{op}	0		120	mA
Power in SMF	P_o	1.5	2.5		mW
Centre Wavelength	λ_c	730	750	770	nm
Bandwidth FWHM		15	20		nm
Spectral ripple [RB=0.1nm]			0.1	0.2	dB
Monitor Diode Current*	I_{MPD}	0.1			mA
Monitor diode bias voltage	V_{Bias}	0		-2	V

4. ABSOLUTE MAXIMUM RATINGS

Stresses beyond the absolute maximum ratings may cause permanent damage to the device. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

Parameter	Symbol	Cond.	Min	Max	Unit
Forward current	I_F			150	mA
Reverse voltage	V_R			-2	V
Forward voltage	V_F	$I_{F,max}$		2.5	V
Storage temperature	T_{stg}		-40	85	°C
Operating temperature	T_{op}	$I_{F,max}$	-20	65	°C
Lead soldering temperature				260	°C
ESD		human b.m		500	V

* Measurement conditions:
- $I_{op} = I_{op}$ Max
- Monitor PD bias voltage: 0 Volts

Input resistance of the Monitor PD current measurement circuit 10 Ohm

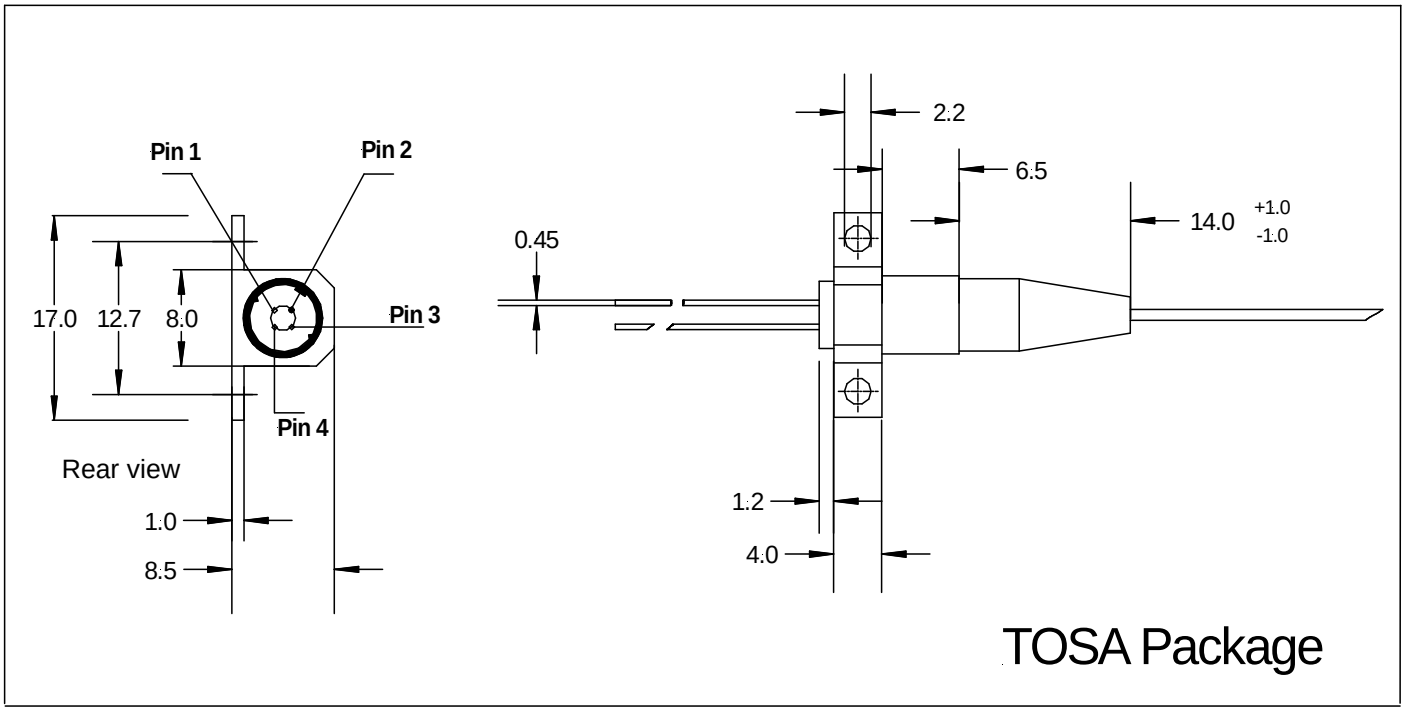
5. SCREENING (EXS7505-8411)

The manufactured 800nm SLED Module is required to meet all operating conditions specified in Table 4.1, Electro-Optical Performance Specifications after being subjected to the following screening tests.

Test Item	Test Conditions	Reference	Sample
Hermetic Seal (At TO-CAN Level)	Fine leak : Max. leak rate 5x10^{-8} atm.cc/sec Gross leak :	MIL-STD-883, Method 1014 Condition A MIL-STD-883, Method 1014 Condition C	100 % 100 %
Temperature Cycling	-40℃ to +85℃, ramp rate >= 5° C/min 20 cycles	MIL-STD-883, Method 1010	100%

6. PACKAGE DIMENSIONS [mm]

Tolerances: **.X ± 0.25 mm**
.XX ± 0.05 mm



TOSA	
Pin	**Function**
1	MONITOR DIODE ANODE
2	SLED CATHODE (-) , CASE , MONITOR DIODE CATHODE
3	SLED ANODE (+)
4	NC

Attention

Prior to connecting the SLED module to the driver using constant power mode, make sure that your SLED driver supports the so-called "Common laser cathode/photodiode cathode" arrangement and the connections are set accordingly. If this is not the case do not connect the SLED, otherwise it may result in permanent damage to the SLED.

7. FIBRE AND CONNECTOR

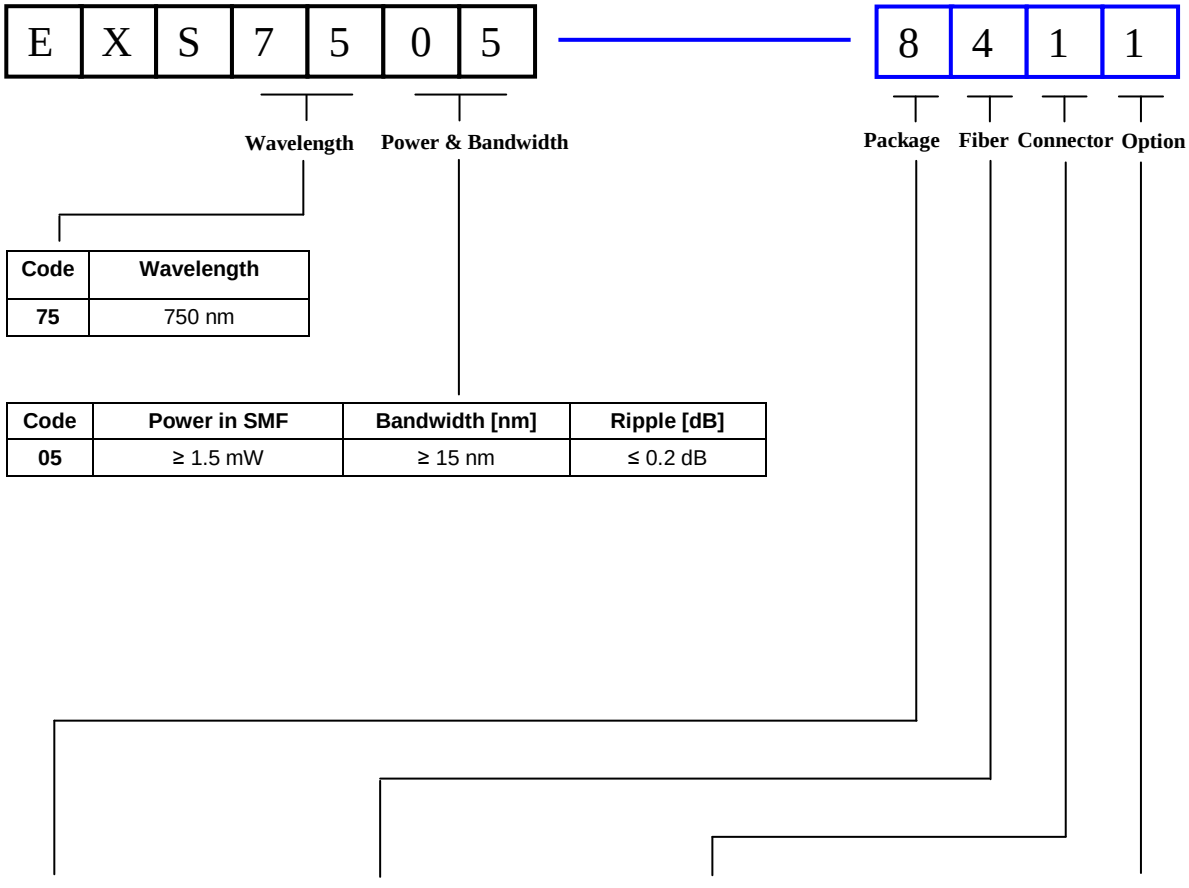
Part	Description
SM Fibre	SM 5/125µm Corning HI780 or equivalent
Loose tube secondary coating	900 µm
Fibre pigtail length [min]	1 m
Optical connector	FC/APC (Narrow Key 2.0mm)

8. IMPORTANT NOTES

1. Avoid electrostatic discharges, which may destroy the SLED.
2. Never use the bare die without heat sinking.
3. Adequate eye protection against laser radiation should be used while handling and operating the module.
4. EXALOS declines any responsibility if the device is used in applications where human life may be endangered.
5. Back reflections may influence the output power and spectral characteristics of the SLED. The use of optical isolators and/or angled connectors is recommended. Back reflections of less than -30dB are recommended.

9. ORDERING INFORMATION

Please use the following code system to order products from EXALOS:



Code	Wavelength
75	750 nm

Code	Power in SMF	Bandwidth [nm]	Ripple [dB]
05	≥ 1.5 mW	≥ 15 nm	≤ 0.2 dB

Code	Package
8	TOSA

Code	Fiber
4	SM 5/125/900µm

Code	Connector
1	FC/APC

Code	Option
1	Monitor Diode

10. REVISION HISTORY

Revision History				
Rev.	**Description**	**ECN Number**	**Date (ECN)**	**Released**
0.1	Original version	-	-	17.01.06
0.2	Change operating current, 150mA instead of 100mA Typical monitor diode current 5mA instead of 2mA Screening: Burn-in 60 hours at 50℃ – 150mA	EC 0249	30.08.07	30.08.07
1.0	Change operating current, 120mA instead of 150mA Change min output power, (1.5mW) instead of (0.8mW) Change min Bandwidth, (16nm) instead of (18nm) Screening: Burn-in 60 hours at 50℃ – 120mA	EC 0325	15.04.2009	15.04.2009
1.1	Update specification template	EC 0495	17.04.2012	17.04.2012