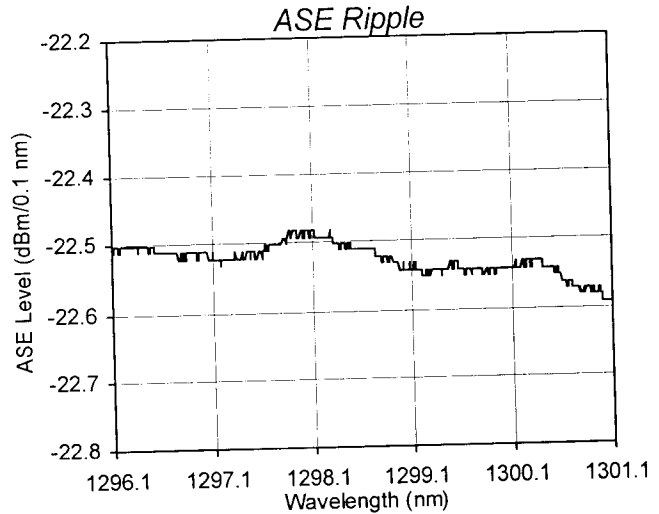
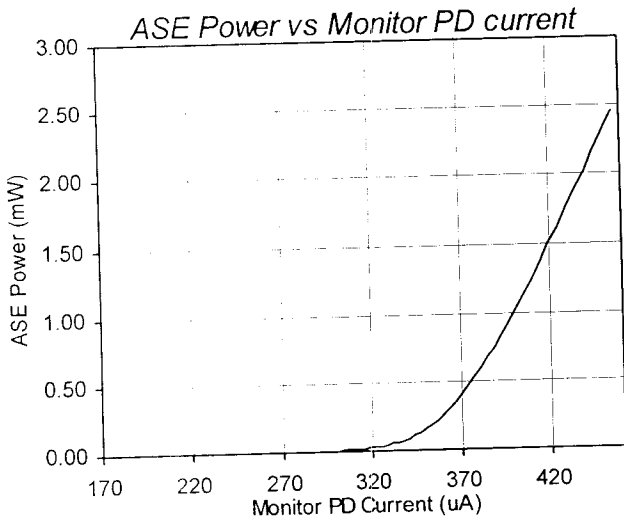
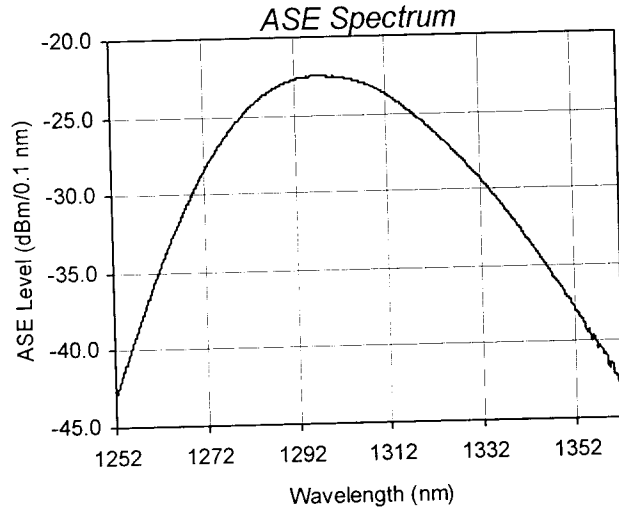
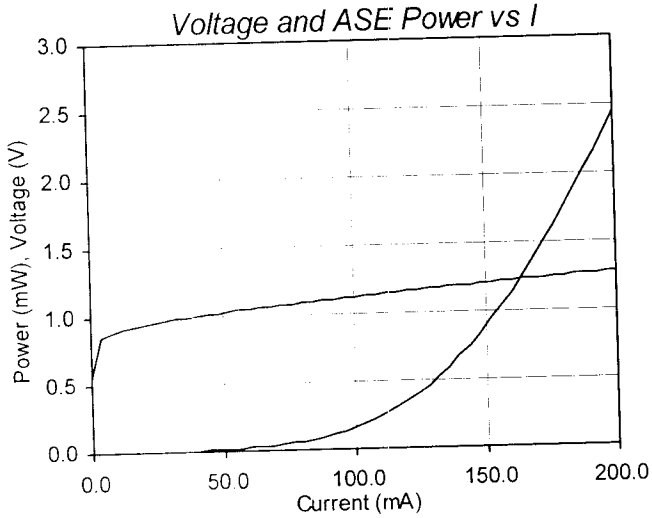


# Measurement Report

ESL1305-1211 - SN: 9447

121198



Max Power 2.46 mW  
 Peak Wavel.: 1298.6 nm  
 Central Wavel.: 1299.5 nm  
 BW: 39.8 nm  
 ASE Ripple: 0.03 dB  
 $V_f @ I_s$ : 1.28V  
 Monitor PD Current at Max Power: 456.012  $\mu$ A

Date: 21.08.2006 Time: 10:18  
 $T_{th} = 20.0$  °C,  $T_{case} = 20.0$  °C  
 $I_{TEC} = 0.17$  A,  $V_{TEC} = 0.30$  V  
 $I_s$ : 200.0 mA  
 Test operator: spi  
 Test Program Rev.: 2.0, Prod. Mode



## CERTIFICATE OF CONFORMANCE

### CoC ref: EXS-COC- 41685/0-2

It is hereby certified that all articles in the quantities called for in our purchase order have been processed in conformance with the requirements, specifications and drawings listed on that order. We certify that inspection evidence, including test data necessary to substantiate this certification is available from our files.

---

Customer Purchase Order Number      FOM-7900B  
EXALOS Purchase Order Number      41685/0

Order Item Number      2  
Product Code      ESL1305-1211  
Description      **ESL1305-1211**  
                                 1300 nm SLD High Bandwidth DIL PMF 9/900      FC/APC PD Monitor

Specification Number      ESL1305-1xxx  
Revision      060905 Rev. 4.0

Delivery Date      March 03, 2008  
Quantity Delivered      1

---

Lot Number(s)  
MO1541

#### Serial Numbers

9447

---

#### Authorised Signature

Name:      Philippe Crépellière  
Title      Quality Manager

Schlieren      Mar 03, 2008

---

**ESL1305-1xxx**  
**High Bandwidth SLED**  
**1300 nm**  
**DIL Package**

**Revision :** 4.0  
**Date :** 06-09-2005  
**Confidentiality :** Confidential

**Prepared by :** Raffaele Rezzonico  
(Product Support Technician)

**Checked by :** Chris Armistead  
(Engineering Manager)

**Approved by :** Philippe Crépeillère  
(Quality Manager)

**Authorized by :** Christian Vélez  
(CTO)

## CONTENTS

1.	SCOPE.....	3
	• 1.1 PURPOSE .....	3
	• 1.2 RESPONSIBILITY.....	3
2.	REFERENCE DOCUMENT.....	3
3.	ELECTRO-OPTICAL PERFORMANCE ( $T_{SLED} = 20^{\circ}C$ ).....	3
4.	ABSOLUTE MAXIMUM RATINGS .....	4
5.	SCREENING .....	4
6.	PACKAGE DIMENSIONS [MM].....	5
7.	IMPORTANT NOTES.....	6
8.	ORDERING INFORMATION .....	6
9.	REVISIONS HISTORY .....	7

## 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) Dil.

### 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 ( $T_{SLED} = 20^{\circ}C$ )

Parameter	Symbol	Cond.	Min		Typ		Max	Unit
Operating Current	$I_F$		0				200	mA
Power in SMF or PMF*	$P_o$	$I_{F,max}$	1.5	1.2*	2.5	2*		mW
Center Wavelength	$\lambda_c$	$I_{F,max}$	1280		1300		1320	nm
Bandwith FWHM		$I_{F,max}$	35		40			nm
Spectral ripple [RB=0.1nm]		$I_{F,max}$			0.1		0.2	dB
Monitor Diode Current	$I_{MPD}$				400(#)			$\mu A$

(#)Measurement conditions:

- $I_F = I_F \text{ Max}$
- Monitor PD bias voltage: 0 Volts

Input resistance of the Monitor PD current measurement circuit = 125 Ohm

## 4. ABSOLUTE MAXIMUM RATINGS

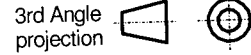
Stresses beyond the absolute maximum ratings may cause permanent damage to the device. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

Parameter	Symbol	Cond.	Min	Max	Unit
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	60	°C
Storage humidity	<30°C		5	95	% r.h.
	>30°C			85	% r.h.
Thermoelectric cooler voltage	$V_{tec}$			2.5	V
Thermoelectric cooler current	$I_{tec}$			1.8	A
Thermistor Resistance	$R_{th}$	20°C	12.5		KΩ
Thermistor constant	B		3892		K
Lead soldering temperature				260	°C
Lead soldering duration				10	s
ESD		human b.m		500	V
Monitor diode reverse bias voltage	$V_{Bias}$		0	-2	V

## 5. SCREENING

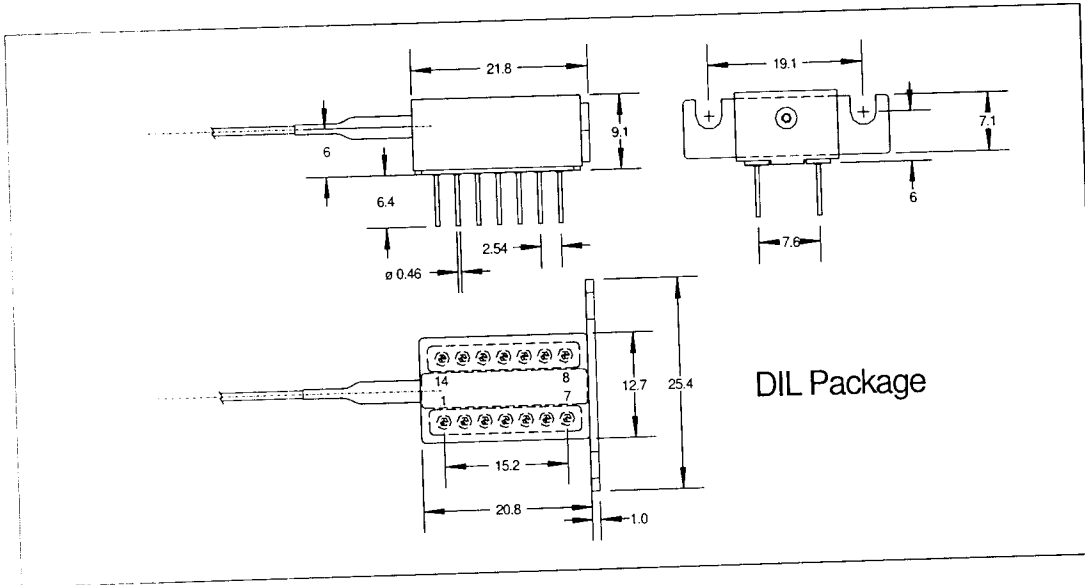
The produced 1300nm SLED Module is required to meet all operating conditions specified in Table 3. Electro-Optical Performance Specifications after being subjected to the following screening tests.

Test Item	Test Conditions	Reference
Seal	Fine: Condition A1 Gross: Condition C	MIL-STD-883, Method 1014 Temperature max 85°C
Temperature Cycling	-40°C to +85°C, ramp rate ≤ 5°C/min 10 cycles	MIL-STD-883, Method 1010



## 6. PACKAGE DIMENSIONS [mm]

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



DIL Package			
Pin	Function	Pin	Function
1	TEC (+) <i>orange</i>	8	MONITOR DIODE CATHODE (Note 2) <i>viol</i>
2	NC	9	SLED (-) (Note 2) <i>green</i>
3	NC	10	SLED (+), CASE <i>blue</i>
4	NC	11	THERMISTOR <i>brown</i>
5	CASE	12	THERMISTOR <i>red</i>
6	NC	13	NC
7	MONITOR DIODE ANODE (Note 1) <i>grey</i>	14	TEC (-) <i>yellow</i>

Notes :

- Note 1 :Option Monitor Diode
- Note 2 :Pin # 8 and Pin # 9 are short-circuited

### 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. 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 reflection of less than -30dB are recommended.

## 8. ORDERING INFORMATION

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

Standard product : The standard product is **ESL1305-1111** but all the configuration define below are available on special request.

