25G 1310 nm DFB Laser TOSA-LC Package

Description

A 1310 nm 25 Gb/s edge emitting laser diode in a TO-can package. The Multi-quantum well distributed feedback (DFB) laser is directly modulated (DML) with a RF signal. This device comes with a built-in monitor photodiode and internal optical isolator. This device comes configured with a flexible PCB. An optional LC flange is available for easy LC optical connector attachment.

Features

- TO-Can Package
- LC- Receptacle
- Integrated Isolator
- 25 Gbps
- Wide Temperature operating range
- 1310 nm
- 1 mW CW
- Low Threshold Current
- High SFDR

Applications

- Telecommunications
- RF over Fiber (RFoF)

Electro-Optical Characteristics (T = 25°C**)**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Peak Wavelength	λ	1300	1310	1325	nm	
Threshold Current	I_{th}	-	6	15	mA	T=25 °C
Front Power	P_o	0.7	1	-	mW	$I_f = I_{th}$ + 20 mA
Slope Efficiency	η	0.2	0.3	-	W/A	$I_f = I_{th}$ + 20 mA
Series Resistance	R	-	-	10	Ohms	P_o = 8 mW
Forward Voltage	V_f	-	1.1	1.5	V	$I_f = I_{th}$ + 20 mA
Spectral Wavelength Width (RMS)	Δλ	-	0.3	0.5	nm	P_O = 5mW at -20 dB
Frequency Bandwidth	BW	-	15	-	GHz	Designed RF board.
Side Mode Suppression Ratio	SMSR	35	-	-	dB	
Monitor Current	Im	0.4	0.5	1.0	mA	Iop = 30 mA
Optical Return Loss	ORL		-	-30	dB	CW = 1310 nm
Tracking Error	Te	-1.5	-	1.5	dB	-40 – 80 °C

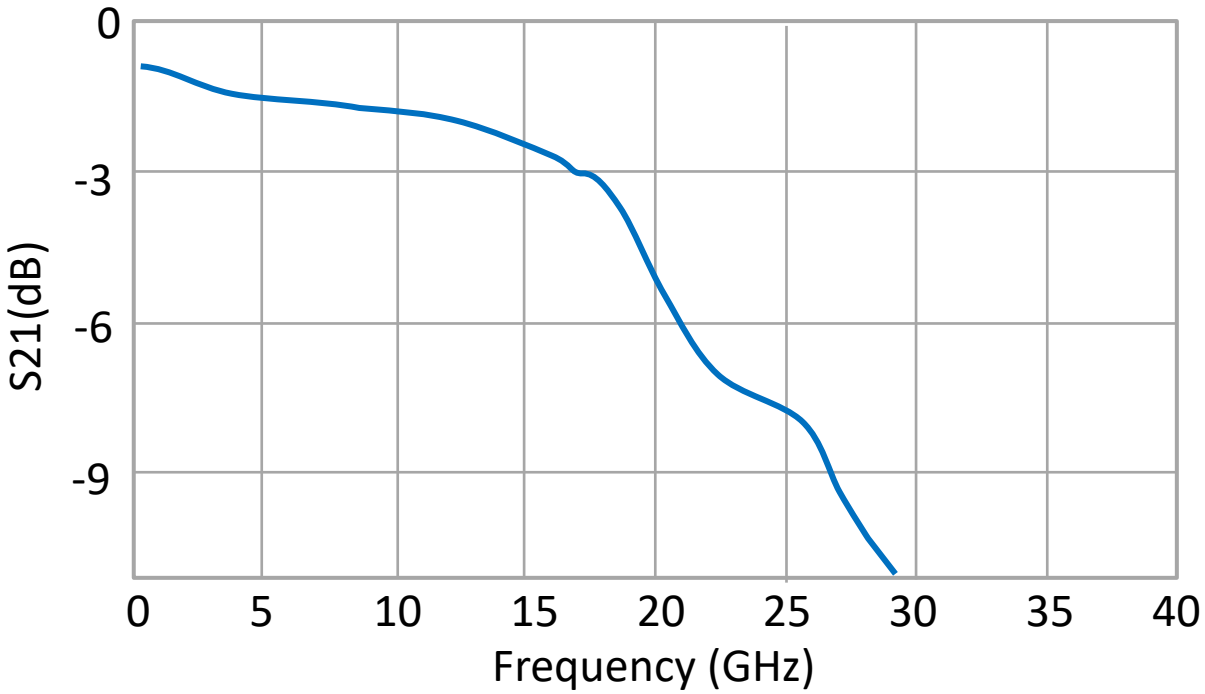
Absolute Maximum Rating (T = 25°C**)**

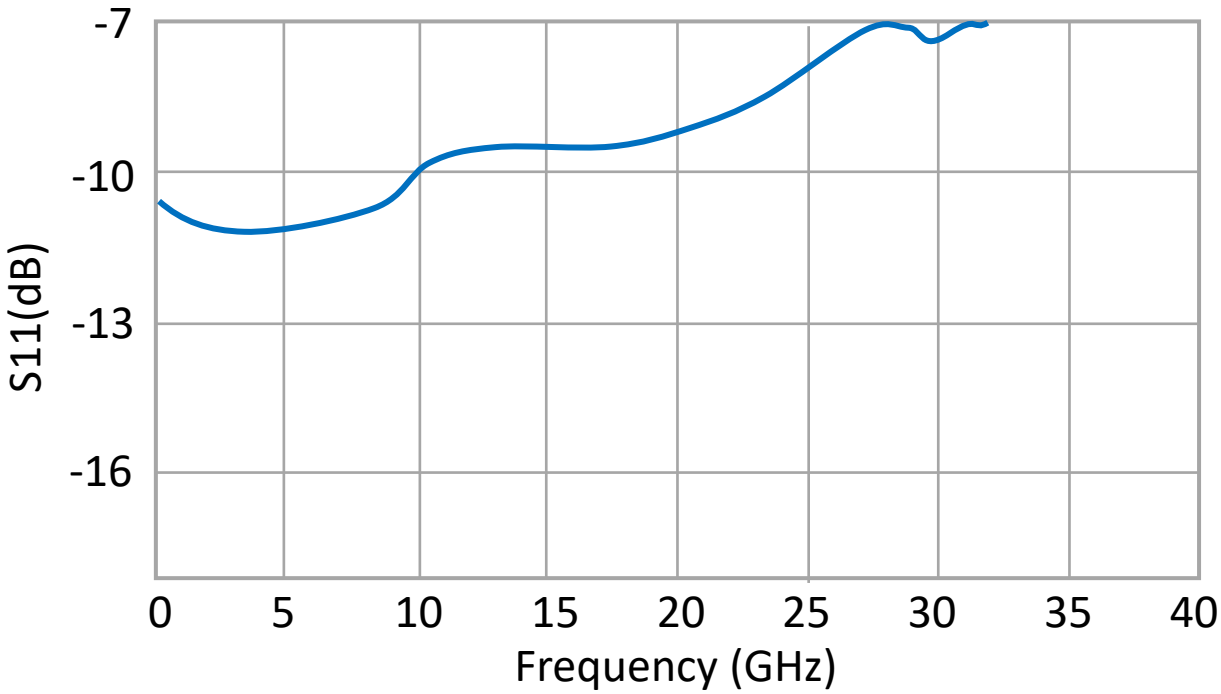
Parameter	Symbol	Condition	Min.	Max.	Unit
Voltage (laser)	V	-	-	1.8	V
Forward Current	I_F	-	-	60	mA
Storage Temperature	T_{stg}	-	-25	90	°C
Storage Humidity	H_{stg}	-	-	85	% r.H.
Operating Temperature	T_{op}	-	-25	85	°C
Soldering Temperature	T_{st}	10 sec	-	260	°C
ESD Susceptibility		HBM	100	-	V
Monitor Forward Current	V_{PD}	-	-	1	mA

Operating at maximum operating specs for prolong periods of time will damage the device.

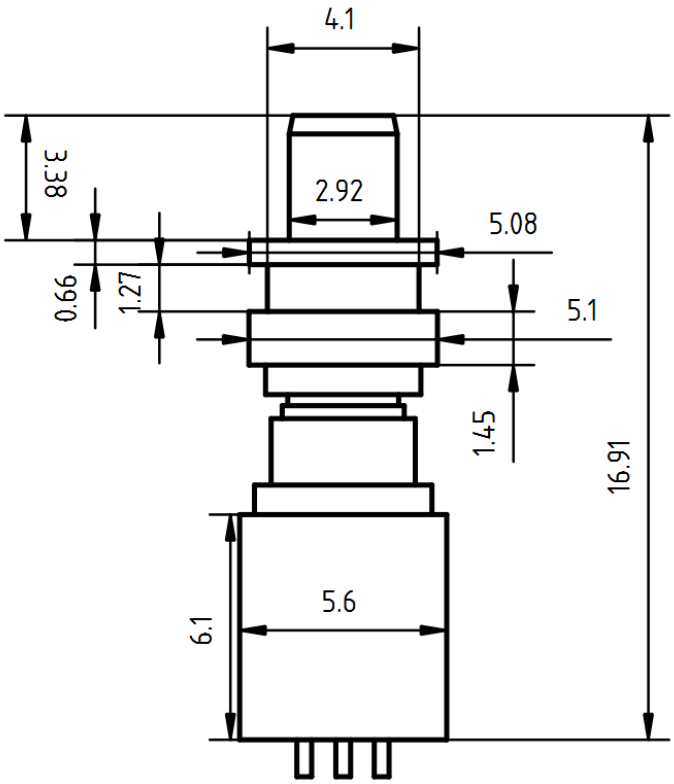
Typical Performance Curves (Top 23°C, 801 PTs, 16 AVGs, 1.5% smoothing)

RF performance dependent on PCB design and optimization. Data shown for Rogers ® RO3003 with Ground-backed Co-planner waveguide (GB-CPW). The GB-CPW was de-embedded.

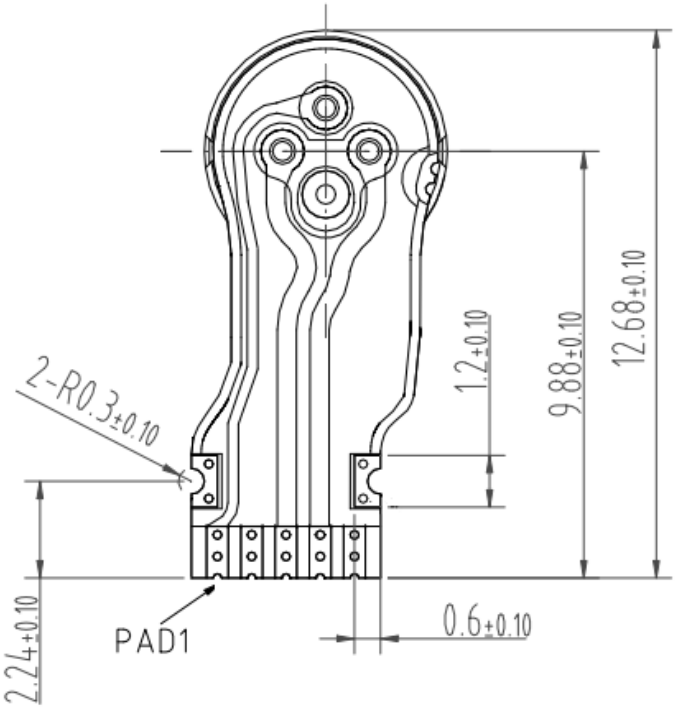




Device Dimensions (all units in mm)



Flexible PCB Pinout



Pad	Function
1	PD Cathode
2	PD Anode/ Case GND
3	Laser Cathode
4	Laser Anode
5	Case GND

Device Nomenclature

DL25-TO-LC-X

Product Line –25G DFB Laser

Device body style – TO-CAN

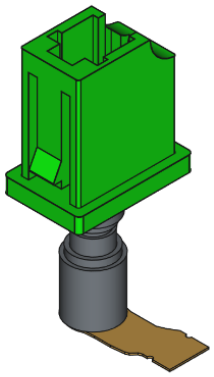
Flange
A – Without Flange
B – With Flange

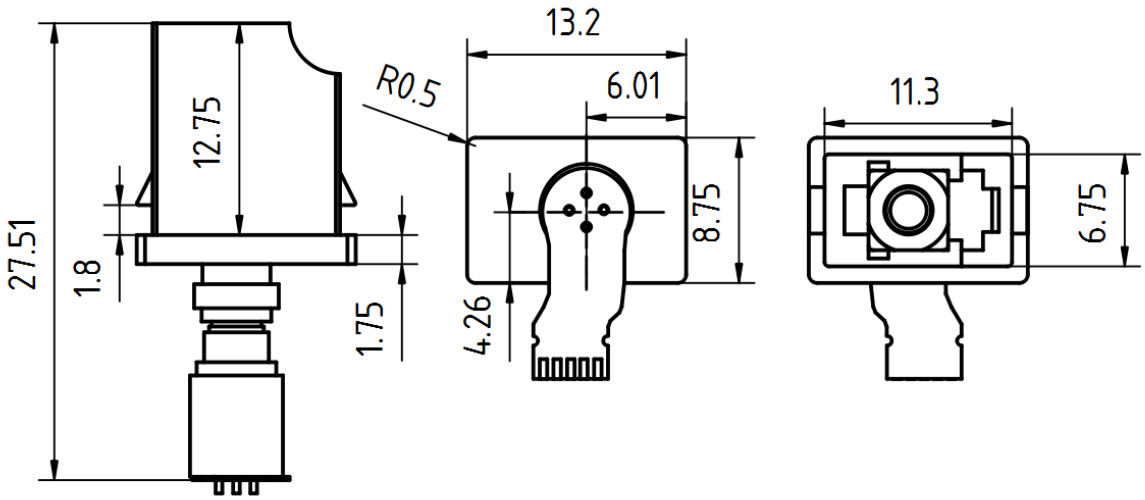
Receptacle
(LC – Receptacle) Standard

Example – DL25-TO-LC-B

25G DFB Laser LC Receptacle with Flange

Mechanical Drawing





Note:

As shown the LC Flange is set orthogonal to Flex PCB.
The flange can be set inline with the Flex PCB.

DESIGNED BY: Vinny Gjokaj DATE: Jan 5 2026		DL25_TO_LC LC Flange	
SIZE A4		[All Units in mm] [Tolerances are +/- 0.1 mm unless specified]	
SCALE 3:1	WEIGHT (kg) Weight	DRAWING NUMBER Revision 1.0	SHEET A4-Paper

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Alpha Build: Devices in Alpha build are in internal engineering build and testing stages. Major changes may happen for production build.

Beta Build: Devices in Beta build are for external customer and engineering sample testing stages. Minor changes may happen for production build.

Production Build: Customer ready devices. Small appearance changes may occur between devices.

Obsolete: Currently not supported.

Revision History

1.1 – January 2026 – Included LC Flange drawing. Updated device Body drawing. Included RF data plots.

1.0 – December 2023 – Initial Release