

# LDI-1650-DFB-1.25G-20/40

1650 nm, DFB, 20 mW CW, 40 mW pulse, 1.25 Gbps

## DESCRIPTION

The module is equipped with an SM fiber and operates both in CW giving optical power up to 20 mW and pulse mode giving optical power up to 40 mW. Small size and weight allow for installing it on a PCB without additional mounting.

Applications: optical fiber communication systems with data rate up to 1.25 Gbps.

## ABSOLUTE MAXIMUM RATINGS

Parameter	Value	Unit
LD forward current, $I_{fl}$	120	mA
LD pulse forward current, $I_{pfl}$	300	mA
LD reverse voltage, $V_{rl}$	2	V
PD reverse voltage, $V_{rd}$	10	V
Operating temperature, $T_c$	-30 ÷ +50	°C
Storage temperature, $T_{stg}$	-30 ÷ +60	°C

## ELECTRICAL-OPTICAL CHARACTERISTICS (SINGLE MODE, T = 25 °C)

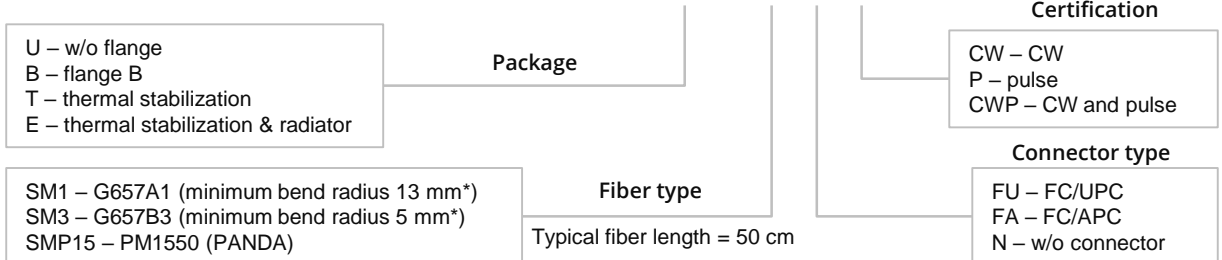
Parameter	Min	Typ	Max	Unit	Test conditions	
Wavelength	$\lambda$	1645	1650	1655	nm	CW
Threshold current	$I_{th}$		18	22	mA	CW
Operating current	$I_{op}$		30		mA	CW, P = 2 mW
			40			CW, P = 5 mW
			100			CW, P = 15 mW
	$I_p$		250		mA	Pulse*, P = 35 mW
Spectral width	$\Delta\lambda$		0.1		nm	CW, -20 dB
Operating voltage	$V_{op}$		1.3		V	CW, P = 15 mW
Slope efficiency	$S_e$		0.18		mW/mA	CW, P = 10 mW
Monitor current (PD)	$I_m$	0.05	0.5	2	mA	CW, $V_{rd} = 5$ V, P = 15 mW
Tracking error**	$E_r$		0.4	0.6	dB	CW, P = 5 mW, T = -30 ÷ +50 °C

\* Pulse duration 10  $\mu$ s, duty cycle = 0.01.

\*\*Tracking error  $E_r = \max\{10 \log(P/P_{25^\circ C})\}$ ,  $I_m = \text{const}$

## ORDERING INFORMATION

### LDI-1650-DFB-1.25G-20/40 -X-2-X-X-X



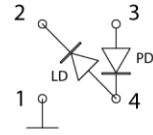
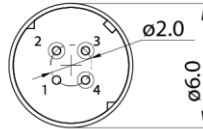
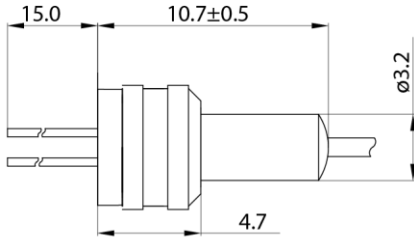
\*Attenuation 0.1 dB/loop at 1550 nm

Our products are certified by Belarusian Chamber of Commerce. All the components used in production are ISO 9001:2008 certified and comply with RoHS directive. Characteristics, data, materials and structures specified in this datasheet are subject to change without notice.

This document was updated on 31.08.2017

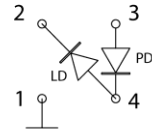
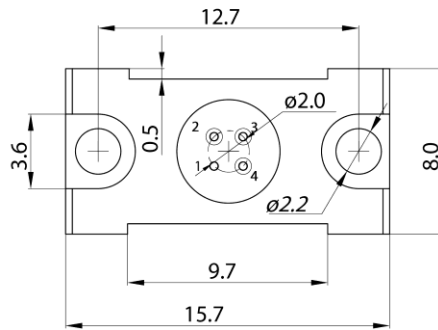
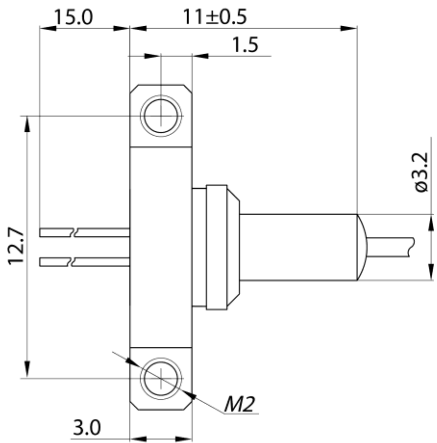
# LDI-1650-DFB-1.25G-20/40

U



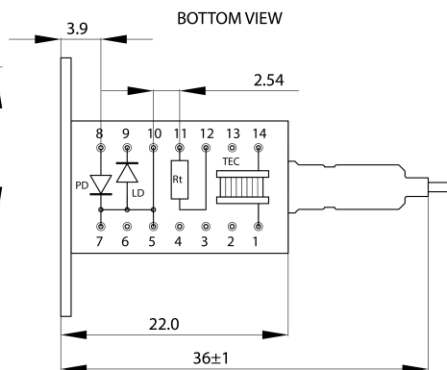
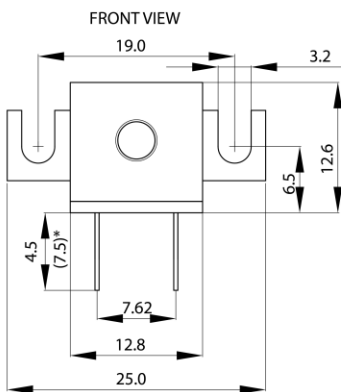
- 1. Case
- 2. LD Cathode
- 3. PD Anode
- 4. LD Anode, PD Cathode

B



- 1. Case
- 2. LD Cathode
- 3. PD Anode
- 4. LD Anode, PD Cathode

T



PIN CONNECTION

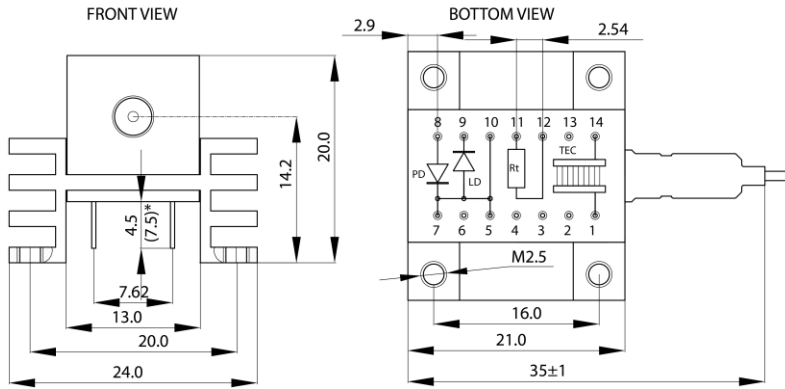
- 1. Cooler Anode
- 2.-
- 3.-
- 4.-
- 5. LD Anode
- 6.-
- 7. PD Cathode
- 8. PD Anode
- 9. LD Cathode
- 10. LD Anode
- 11. Thermistor
- 12. Thermistor
- 13.-
- 14. Cooler Cathode

Cooler: I<600mA, U<3.6V, Q<1.1W

Rt=10000\*EXP(3450\*(1/T(K)-1/298))

# LDI-1650-DFB-1.25G-20/40

**E**



**PIN CONNECTION**

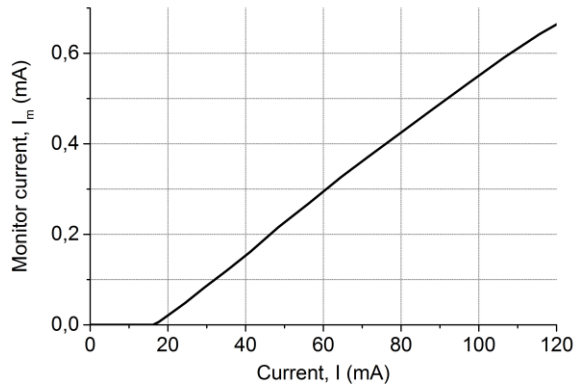
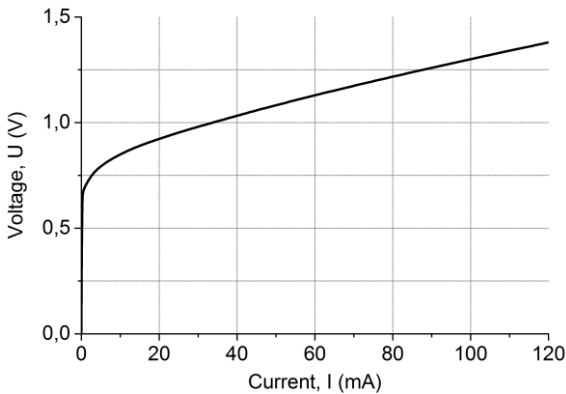
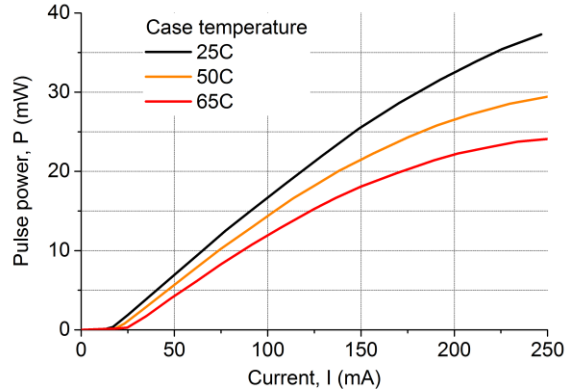
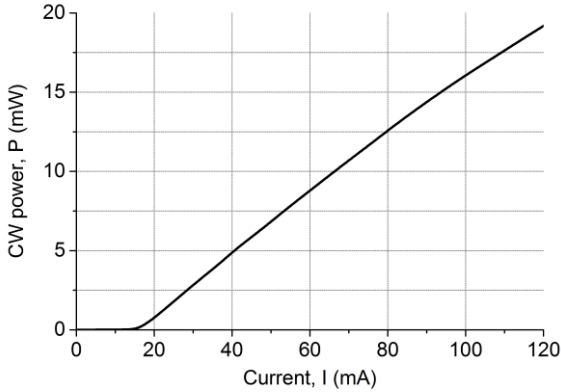
- 1.Cooler Anode
- 2.-
- 3.-
- 4.-
- 5.LD Anode
- 6.-
- 7.PD Cathode
- 8.PD Anode
- 9.LD Cathode
- 10.LD Anode
- 11.Thermistor
- 12.Thermistor
- 13.-
- 14.Cooler Cathode

Cooler: I<600mA, U<3.6V, Q<1.1W

$$R_t = 10000 \cdot \text{EXP}(3450 \cdot (1/T(K) - 1/298))$$

\*Possible pins length 4.5 mm or 7.5 mm.

# LDI-1650-DFB-1.25G-20/40



AMk	A	B	B-					
LMk	C	D	C-					
—DFB-LD T								
Peak	1 652.9 nm	8.54 dB	SMSR	56.19 dB				
2nd Peak	1 655.0 nm	- 47.65 dB	Mode Offs	2.130 nm				
σ	0.013 nm		Stop Ban	2.570 nm				
6.07	0.078 nm	Slice Lev	20.0 dB	Center Off	0.845 nm			
20.0 dB Wid	0.090 nm			Search Resolut	0.10 dB			
Res	0.03n (Actual	0.02 n	Smpl	1001p	SwpAvc	10 [ **** ]	PtAvg	100
VBW	200Hz	Sm Off	Intvl	Off				

