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RLT785-100MGS

- Infrared Laser Diode
- 785±10 nm, 100 mW CW
- Single Mode
- 5.6 mm TO-Can, Flat Window
- Built-in Monitor PD

Description

RLT785-100MGS is a single mode Laser Diode emitting at typical 785 nm with rated output power of 100 mW CW at room temperature. The 5.6 mm TO package includes a cap and flat window, and contains a built-in **monitor PD**.

Maximum Ratings (T_{CASE}=25°C)

Parameter	Symbol	Values Min.	Values Max.	Unit
Forward Current	I_F			mA
Reverse Voltage	V_F		2.0	V
Operating Temperature	T_{CASE}	- 10	+ 70	°C
Storage Temperature	T_{STG}	- 40	+ 85	°C
Lead Solder Temperature *2	T_{SLD}		+ 280	°C

*1 *must be completed within 5 seconds*

Electro-Optical Characteristics (T_{CASE}=25°C)

Parameter	Symbol	Values Min.	Values Typ.	Values Max.	Unit
Peak Wavelength	λ_P	775	785	795	nm
Half Width	$\Delta\lambda$		2.0		nm
Optical Output Power (CW Mode)	P_O		100		mW
Optical Output Power (Pulse Mode) *1	P_O		220		mW
Laser Beam Mode			Single Mode		
Threshold Current	I_{TH}		35	55	mA
Forward Current	I_{OP}		140	160	mA
Forward Voltage	V_{OP}		2.0	2.5	V
Slope Efficiency	η		1.1	1.3	mW/mA
Beam Divergence	$\Theta\parallel$	7	9	10	°
Beam Divergence	$\Theta\perp$	15	17	19	°
Monitor Current	I_M		0.5	0.8	mA
PD Reverse Voltage	V_{PDR}		30		V

*1 *duty=50%, pulse width = 0.5 µs*

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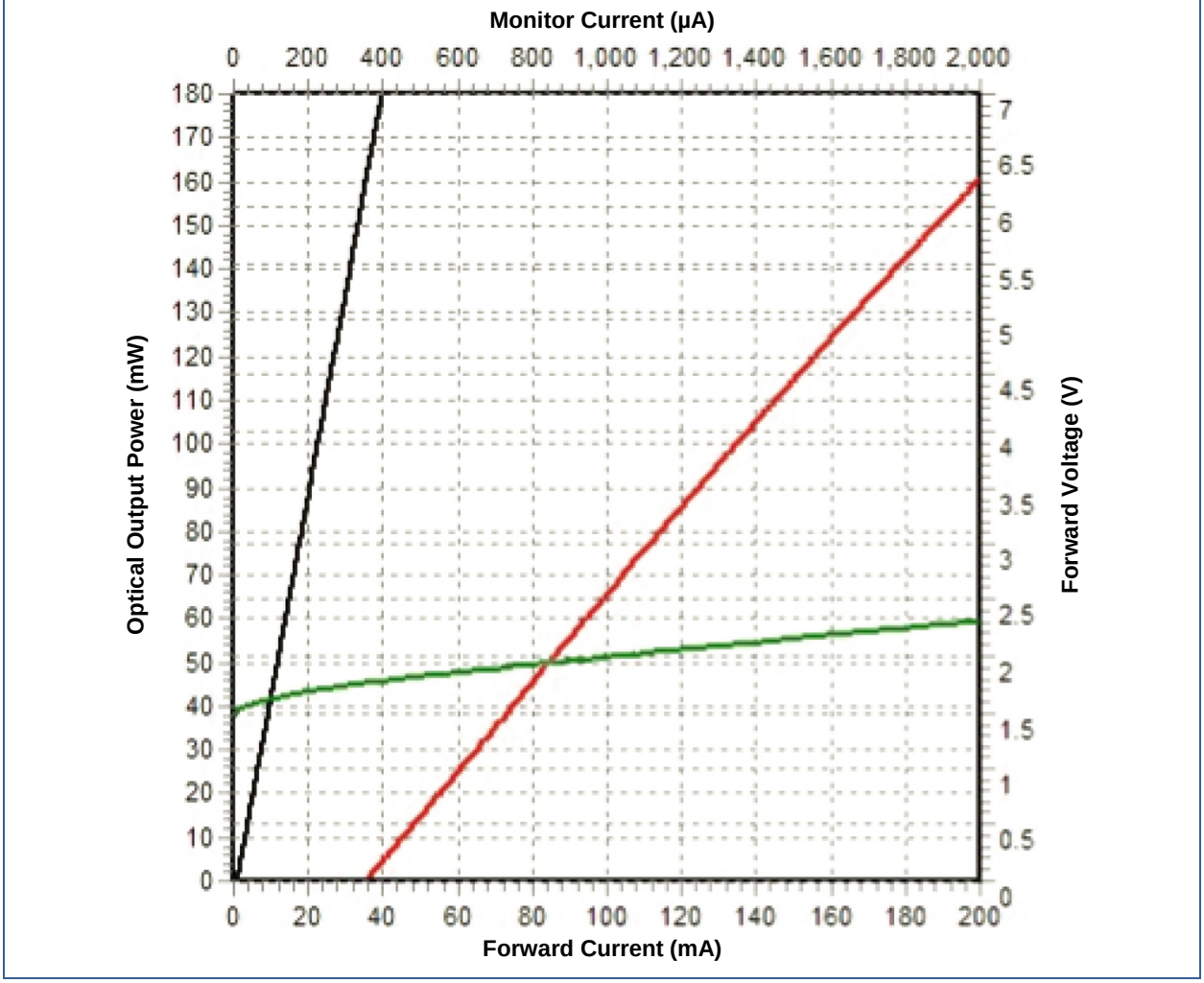
Typical Performance Curves

P/I/V Curve



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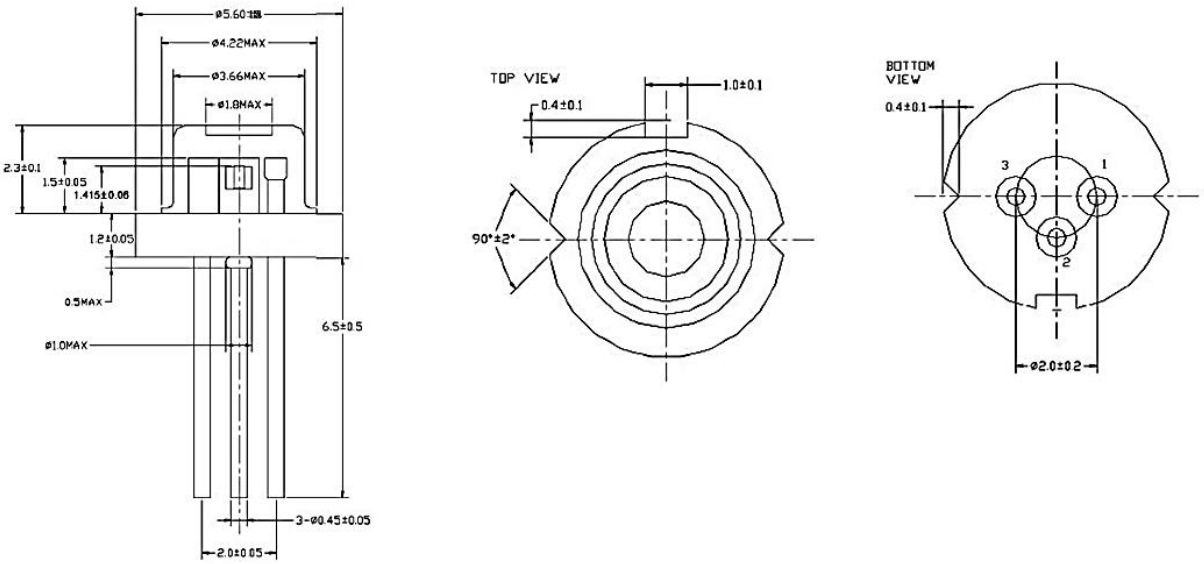
Outline Dimensions

RLT785-100MGS — **5.6 mm, flat window**

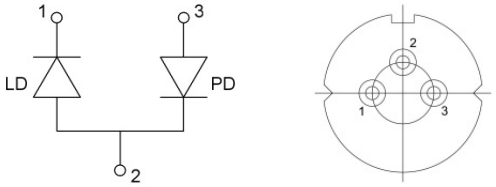


All Dimensions in mm

Electrical Connection

n-type

Lead	Description
PIN 1	LD Cathode
PIN 2	LD Anode, PD Cathode
PIN 3	PD Anode



Precautions

ESD Caution:

Always do handle laser diodes with extreme caution to prevent electrostatic discharge, the primary cause of unexpected diode failure. ESD failures can be prevented by always wearing wrist straps, only using a grounding workplace, and following strict anti-static guidelines when handling the laser diode.

Safety Advice:

This laser diode emits highly concentrated infrared light which can be **hazardous to the human eye and skin**. This diode is classified as **CLASS 3 laser product** according to **IEC 60825-1** and **21 CFR Part 1040.10 Safety Standards**.

Operating Considerations:

Operating the laser diode outside of its maximum ratings may cause failure or a safety hazard.
The diode may be damaged by excessive drive currents or switching transients. If the diode is operated using a power supply, it is strongly recommended to connect the diode with the output voltage set to zero. The voltage should then be increased slowly and with great caution, while at the same time carefully monitoring the laser diodes output power and drive current. The laser diode will show accelerated degradation with increased temperature, and it is advised to keep the case temperature low therefor, by means of heat sinking the device.