rev.1.0 16.03.2015

S83100MG

- IR Laser Diode
- 830 nm, 100 mW
- Multi Mode
- 5.6mm TO-Can with PD
- Flat window cap



Description

S83100MG is an infrared laser diode emitting at typically 830 nm with rated output power of 100 mW cw, in a standard 5.6 mm TO package with integrated monitor photodiode and flat window cap.

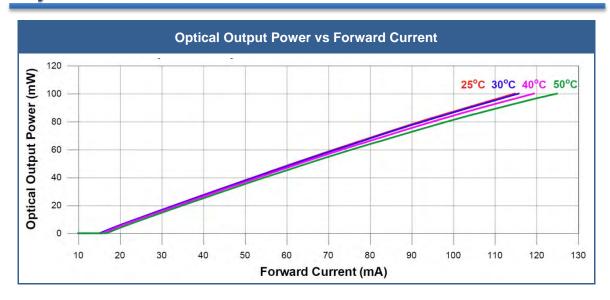
Maximum Ratings (TCASE = 25°C)

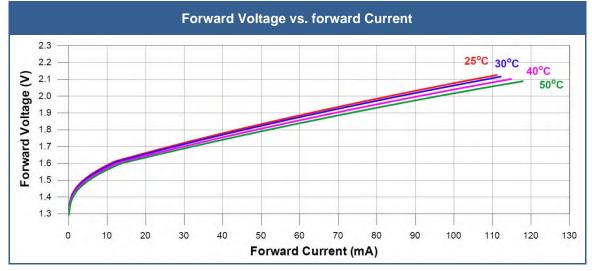
Danamatan	Symbol	Valu	l lm:4	
Parameter		Min.	Max.	Unit
Output power	Po		100	mW
LD Reverse Voltage	V_{R}		2	V
PD Reverse Voltage	V_{RPD}		30	V
Operating Temperature	T_{CASE}	- 10	+ 50	°C
Storage Temperature	$T_{ extsf{STG}}$	- 40	+ 85	°C

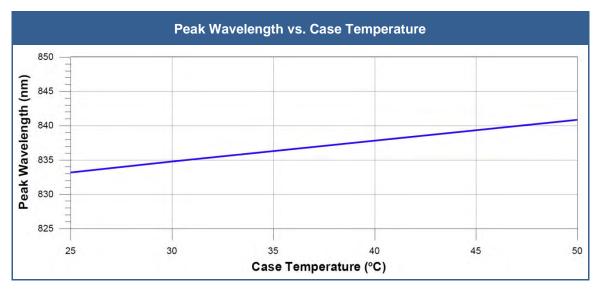
Laser Characteristics (T_{CASE} = 25°C, Po=100mW)

Parameter		Symbol	Values			Heit
			Min.	Тур.	Max.	Unit
Emission Wavelength		λ_{peak}	820	830	840	nm
Threshold Current		I_{th}		14	20	mA
Operating Current		I _F		115	135	mA
Operating Voltage		V_{F}		2.1	2.6	V
Beam Divergence (FWHM)	Parallel	Θ_{II}		10	15	deg
	Perpendicular	θ⊥		17	22	deg.
Slope Efficiency (75mW – 25mW)		η		1.0		mW/mA
PD Monitor Current		I _m	0.05	0.2	1.0	mA

Performance Characteristics





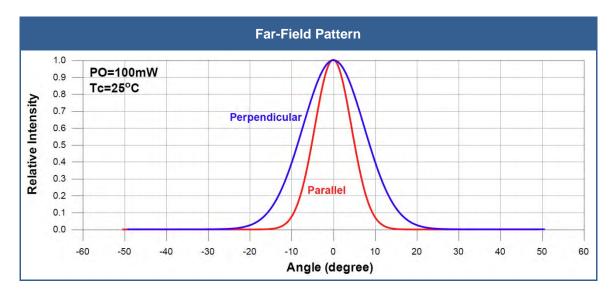


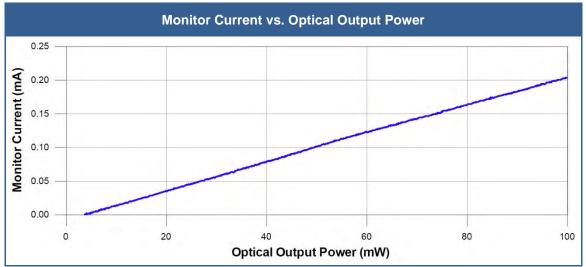


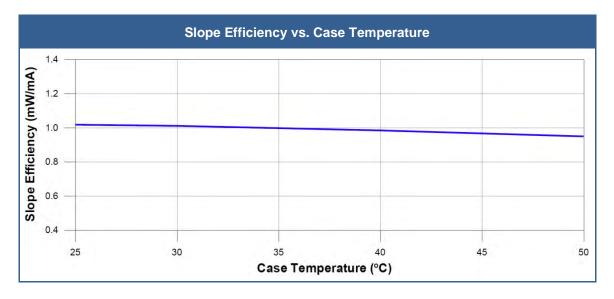
ROITHNER LASERTECHNIK GIRDH

WIEDNER HAUPTSTRASSE 76 IO40 VIENNA AUSTRIA TEL. +43 I 586 52 43 -0, FAX. -44 OFFICE@ROITHNER-LASER.COM







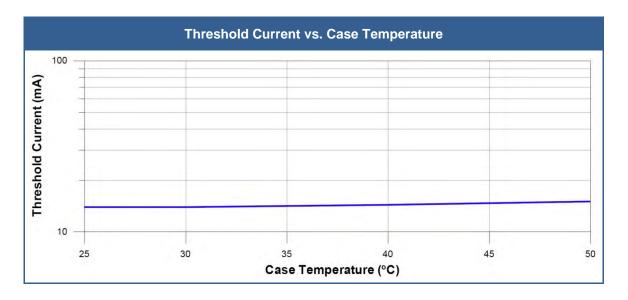




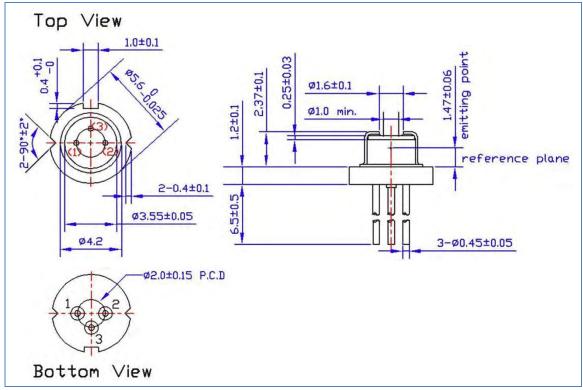
ROITHNER LASERTECHNIK GmbH

WIEDNER HAUPTSTRASSE 76 IO40 VIENNA AUSTRIJ TEL. +43 I 586 52 43 -0, FAX. -44 OFFICE@ROITHNER-LASER.COM





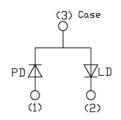
Drawing



All dimensions in mm

Electrical Connection

Lead	Description	
Pin 1	PD Anode	
Pin 2	LD Cathode	
Pin 3	LD Anode, PD Cathode, Ground	



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 IR 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.



This product is comply with 21 CFR Part 1040.10

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.

© All Rights Reserved

The above specifications are for reference purpose only and subjected to change without prior notice

www.roithner-laser.com

5