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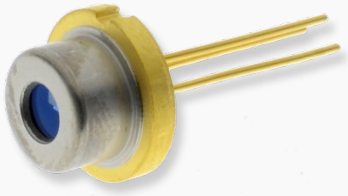
v 1.0 12.09.2013

S6530MG

- Red Laser Diode
- 660 nm, 30 mW
- Single Mode
- 5.6mm TO-Can



Description

S6530MG is a red laser diode emitting at typically 660 nm with rated output power of 30 mW cw, in a standard 5.6 mm TO package.

Maximum Ratings

Parameter	Symbol	Values Min.	Values Max.	Unit
Output power	*Po*		32	mW
Reverse Voltage	V_R		2	V
Reverse Voltage	V_{RPIN}		30	V
Operating Temperature	T_{CASE}	- 10	+ 50	°C
Storage Temperature	T_{STG}	- 15	+ 85	°C

Laser Characteristics (T_{CASE} = 25°C)

Parameter	Symbol	Values Min.	Values Typ.	Values Max.	Unit
Emission Wavelength	λ_{peak}	650	660	665	nm
Treshold Current	I_{th}		58	68	A
Operating Current	I_F		95	105	A
Operating Voltage	V_F		2.1	2.6	V
Beam Divergence (FWHM)	$\Theta_{\parallel} \times \Theta_{\perp}$	7x n/a	8x28	13x35	deg
Slope Efficiency (7.5-22.5mW)	η	0.5	0.8		mW/mA

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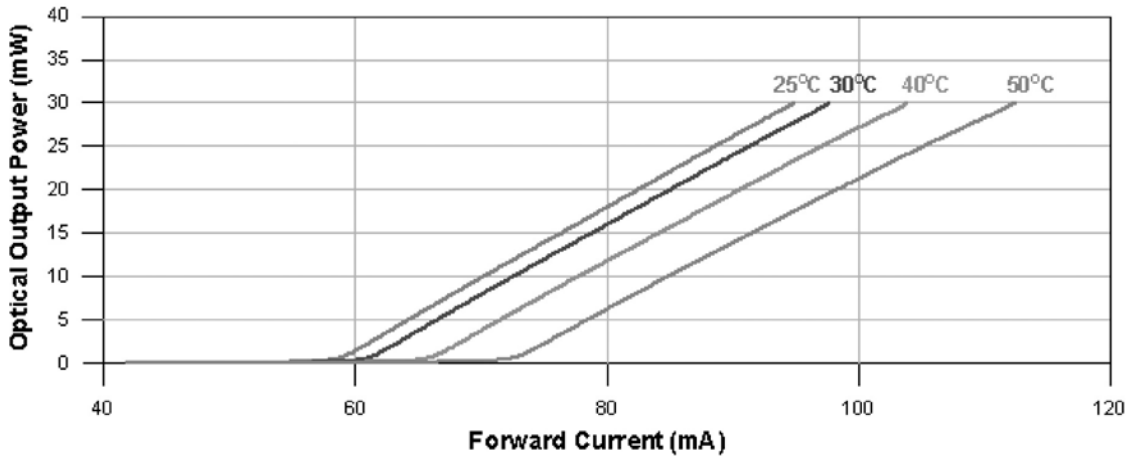
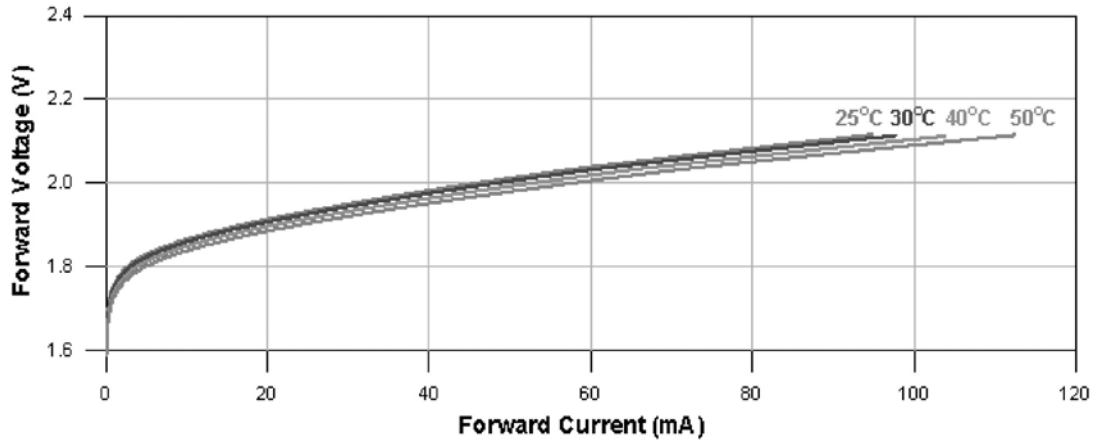
Performance Characteristics

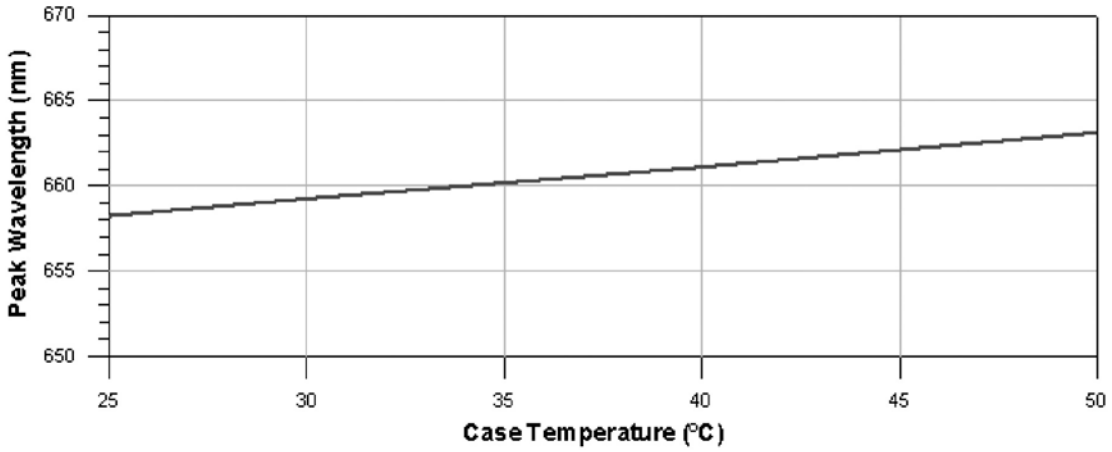
Optical Output Power vs Forward Current



Forward Voltage vs. forward Current



Peak Wavelength vs. Case Temperature



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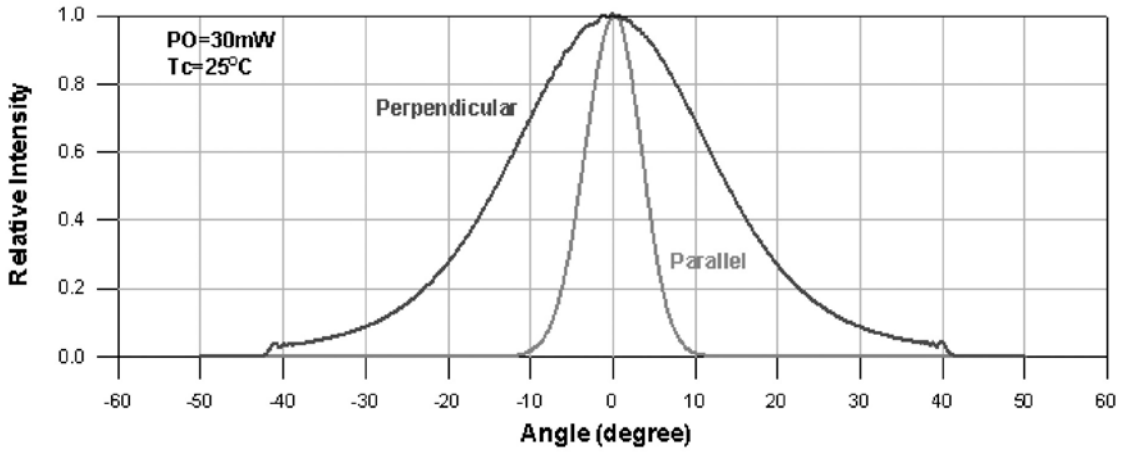
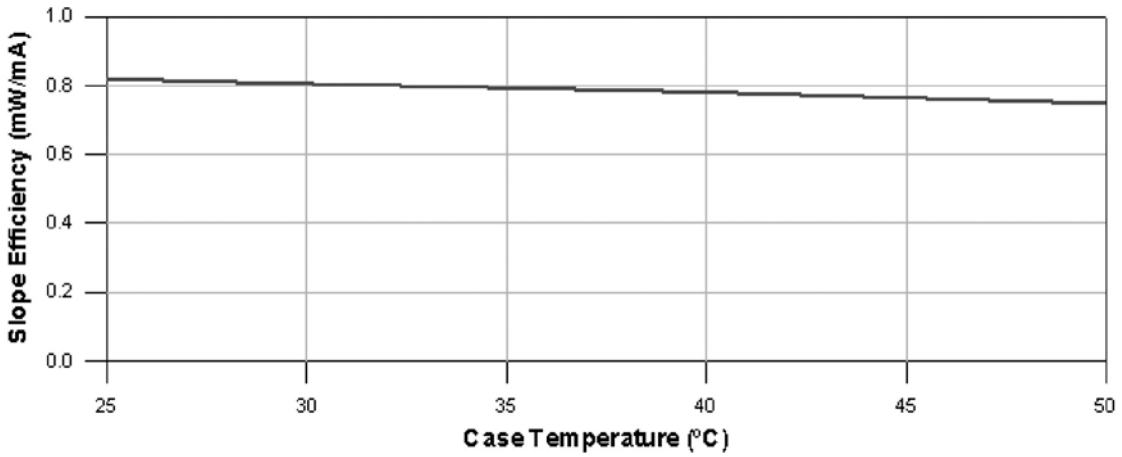
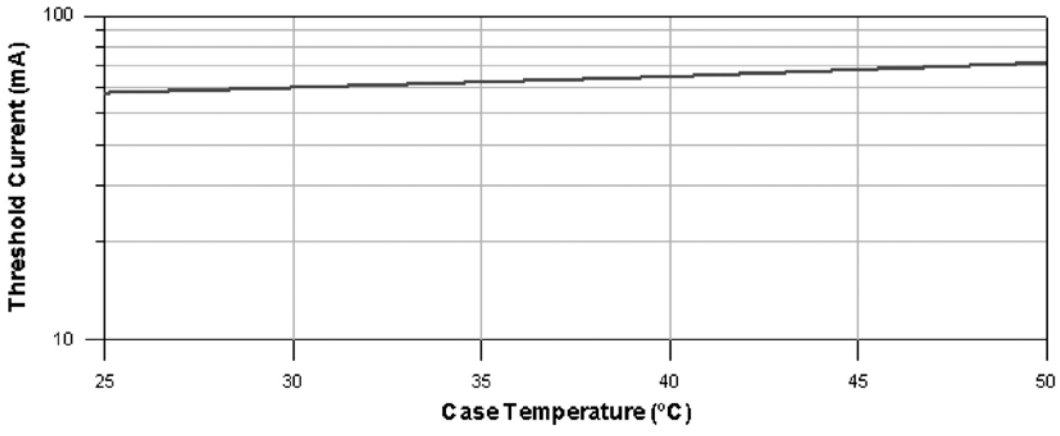
Relative intensity vs. Angle



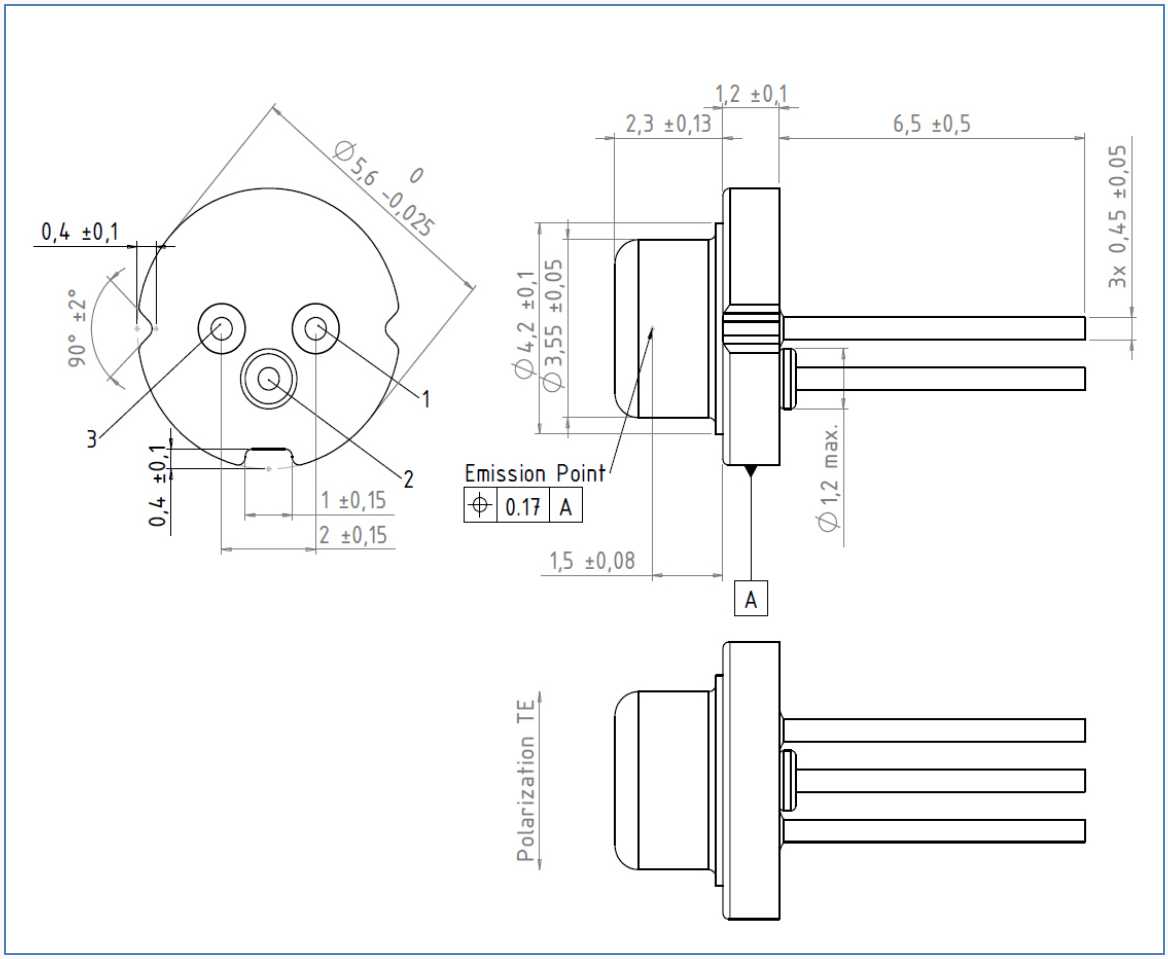
Slope Efficiency vs. Case Temperature



Threshold Current vs. Case Temperature



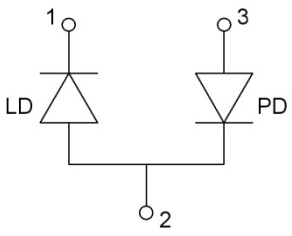
Drawing



All dimensions in mm

Electrical Connection

Lead	Description
Pin 1	LD cathode
Pin 2	Case
Pin 3	PD anode



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 blue 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.