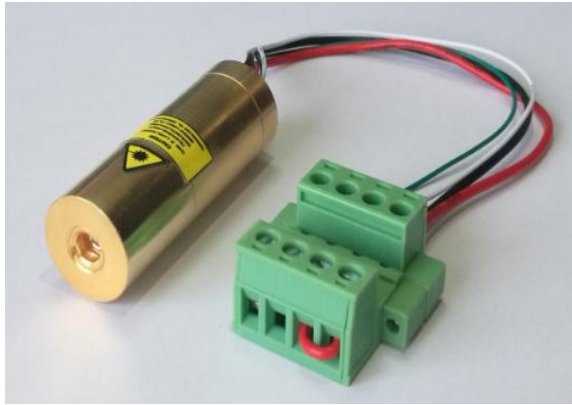


# Green 520nm Laser Module

## Wide Temperature Range

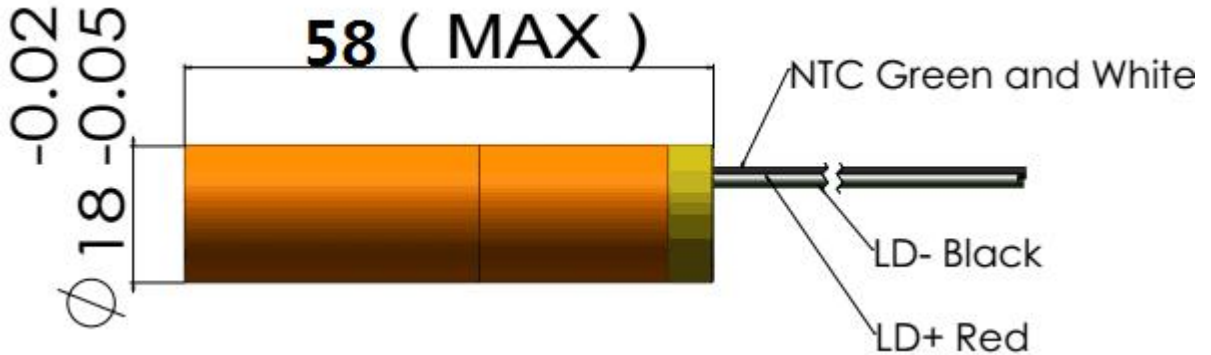


**G520D1000-18x58-40**

### Features

- DPSS Laser
- 1W@520nm
- Wide Temperature Range
- Fast Rise Time
- High Reliability

Dimensions (Unit: mm)



### Specifications

Model Number		G520D1000-18x58-40		
Mechanical Specifications		Min	Typ	Max
Laser Head	Diameter (mm)	17.95	-	17.98
	Length (mm)	-	-	58
	Weight (g)	-	-	250
Housing Material		Brass with gold-plating		
Optical Specifications		Min	Typ	Max
Wavelength (nm) <sup>(1)</sup>		519	520	524
Output Power (mW) at 24°C at 6A		900	1000	-
Spectral Bandwidth				1
Output Power (mW) from -30 to 50°C at 6A		300	-	-
Power Stability at const. Temperature <sup>(2)</sup>		-	+/- 2%	+/- 5%
Output Power Mode		CW		
Laser Class		4		

<sup>(1)</sup> Can custom-made

<sup>(2)</sup> after max. 3 minutes

<b>Beam Specifications</b>		<b>Min</b>	<b>Typ</b>	<b>Max</b>
Beam Divergence (mrad) <sup>(1)</sup>		-	40	50
Beam Alignment Tolerance	Position ( $\Delta r$ , mm)	-	-	0.5
	Off-axis Angle (mrad)	-	35	60
Beam Diameter at Output Window (mm)		-	0.5	-
Beam Roundness		-	NA <sup>(5)</sup>	-
Beam Mode Longitude		Multi		
Beam Mode Transverse		TEM10 <sup>(5)</sup>		
Polarization Ratio (Linear)		100:1	-	-
M <sup>2</sup>		-	-	50
Residual IR		-	-	1%
<b>Electrical Specifications</b>		<b>Min</b>	<b>Typ</b>	<b>Max</b>
Power Type		ACC		
LD Voltage (DC, V)		1.8	2	2.3
LD Operating Current (mA) <sup>(2)</sup> at 2V		-	5,500	6,000
Thermistor Constants		A = 2.231e <sup>-3</sup> B = 4.694e <sup>-5</sup> C = 0.884e <sup>-6</sup>		
Thermistor Resistance		6.6K $\Omega$ @35 $^{\circ}$ C    8.2K $\Omega$ @30 $^{\circ}$ C 10.0K $\Omega$ @25 $^{\circ}$ C 12.3K $\Omega$ @20 $^{\circ}$ C 16.4K $\Omega$ @15 $^{\circ}$ C		
Power Consumption (W) at 24 $^{\circ}$ C		-	13	14
Housing Isolation		No		
ESD protection		No		
Wire Length (mm) <sup>(3)</sup>		200 (+/-50)		
Wire Type <sup>(3)</sup>		20AWG / 28AWG		
<b>Reliability</b>		<b>Min</b>	<b>Typ</b>	<b>Max</b>
Operating Case Temperature Range ( $^{\circ}$ C)		24	25	26
Rise Time (seconds) at 5.5A <sup>(4)</sup> (-30 to 50 $^{\circ}$ C)		-	3	5
Storage Temperature ( $^{\circ}$ C)		0	-	40
Environmental Humidity (RH, %)		5	-	85
Lifetime (hours) (MTTF at 25 $^{\circ}$ C)		5,000	-	-
RoHS Compliance Declaration		Yes		

(1) Full Angle (1/e<sup>2</sup>)

(2) @24 $^{\circ}$ C Case Temperature

(3) 20AWG for LD wires. 28AWG for NTC wires.

(4) to 50% of full Output Power. Dot (~10mW) can be seen after 0.2s if >1A

(5) See picture 5 on page 3 for example of beam spot

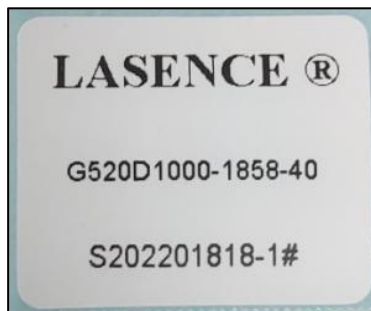
## Remarks

- Product ID for placing orders: G520D1000-1858-40
- Datasheet Version: 1
- No Photodiode
- Customer is responsible for suitable heat sinking
- Label on plastic bag (see picture 2):
  - LASENCE®
  - G520D1000-1858-40
  - Lasence Order Number - Module Number
  - Label Length: 30mm (+/-3mm); Width: 25mm (+/-3mm)
- Anti-static protector for transportation (see picture 4)
- Example of beam spot (see picture 5)
- Laser Beam Warning Label on module housing (see picture 1)
- Laser Marking on module housing (see picture 3):
  - Lasence Material Code
  - Lasence Order Number - Module Number

**Picture 1**



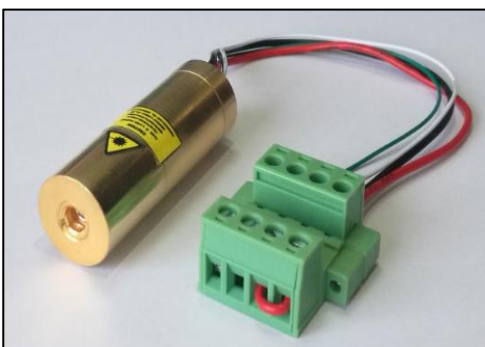
**Picture 2**



**Picture 3**



**Picture 4**



**Picture 5**

