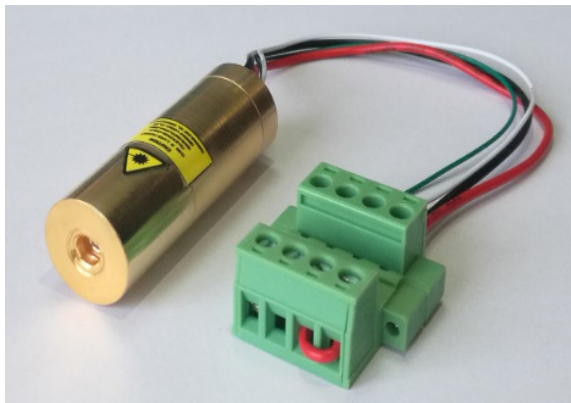


Green 545nm Laser Module Wide Temperature Range

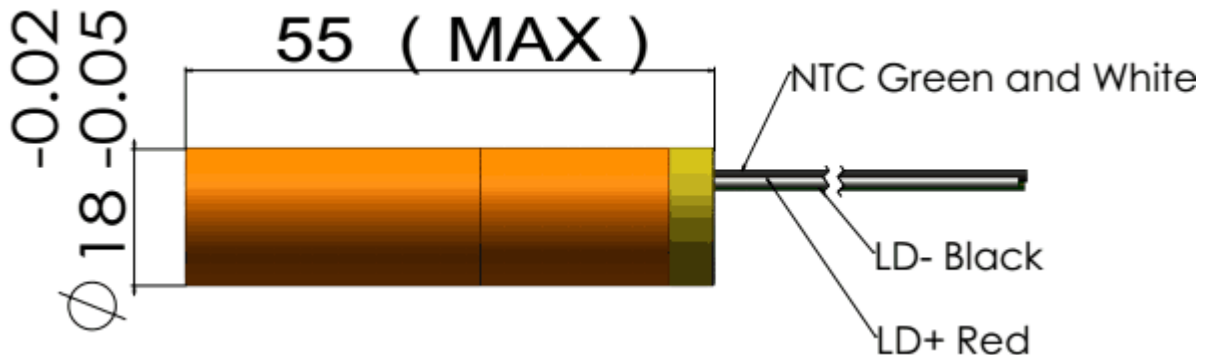


G545D1000-18x55-40

Features

- DPSS Laser
- 1W@545nm
- Wide Temperature Range
- Fast Rise Time
- High Reliability

Dimensions (Unit: mm)



Specifications				
Model Number		G545D1000-18x55-40		
Mechanical Specifications		Min	Typ	Max
Laser Head	Diameter (mm)	17.95	-	17.98
	Length (mm)	-	-	55
	Weight (g)	-	-	200
Housing Material		Brass with gold-plating		
Optical Specifications		Min	Typ	Max
Wavelength (nm)		543	545	547
Output Power (mW) at 24°C at 5.4A		900	1000	-
Output Power (mW) from -30 to 50°C at 5.4A		500	-	-
Power Stability at const. Temperature ⁽¹⁾		-	+/- 2%	+/- 5%
Output Power Mode		CW		
Laser Class		4		

⁽¹⁾ after max. 3 minutes

Beam Specifications		Min	Typ	Max
Beam Divergence (mrad) ⁽¹⁾		-	40	50
Beam Alignment Tolerance	Position (Δr , mm)	-	-	0.5
	Off-axis Angle (mrad)	-	35	60
Beam Diameter at Output Window (mm)		-	0.5	
Beam Roundness		-	NA ⁽⁵⁾	-
Beam Mode Longitude		Multi		
Beam Mode Transverse		TEM10 ⁽⁵⁾		
Polarization Ratio (Linear)		100:1	-	-
M ²		-	-	50
Residual IR		-	-	1%
Electrical Specifications		Min	Typ	Max
Power Type		ACC		
LD Voltage (DC, V)		1.8	2	2.3
LD Operating Current (mA) ⁽²⁾ at 2V		-	5,000	5,500
Thermistor Constants		A = 2.231e ⁻³ B = 4.694e ⁻⁵ C = 0.884e ⁻⁶		
Thermistor Resistance		6.6K Ω @35 $^{\circ}$ C 8.2K Ω @30 $^{\circ}$ C 10.0K Ω @25 $^{\circ}$ C 12.3K Ω @20 $^{\circ}$ C 16.4K Ω @15 $^{\circ}$ C 18.5K Ω @10 $^{\circ}$ C		
Power Consumption (W) at 24 $^{\circ}$ C		-	10	12.65
Housing Isolation		No		
ESD protection		No		
Wire Length (mm) ⁽³⁾		200 (+/-50)		
Wire Type ⁽³⁾		20AWG / 28AWG		
Reliability		Min	Typ	Max
Operating Case Temperature Range ($^{\circ}$ C)		-30	24	50
Rise Time (seconds) at 5.5A ⁽⁴⁾ (-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/e²)

(2) @24 $^{\circ}$ C Case Temperature (from 35-50 $^{\circ}$ C we advise to use max. 4A)

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

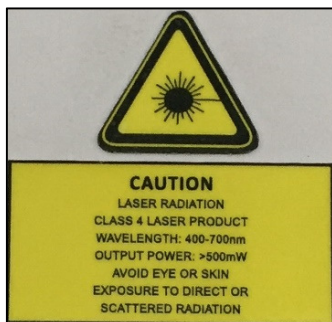
(4) to 50% of full Output Power. Dot (~10mW) can be seen after 0.2s if >1A

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

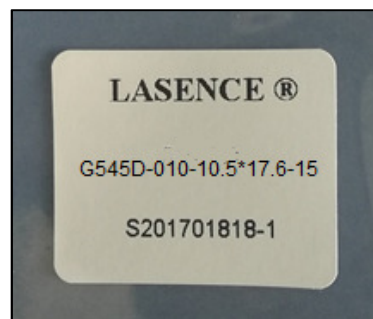
Remarks

- Product ID for placing orders: G545D1000-1855-40
- Datasheet Version: 1
- No Photodiode
- Customer is responsible for suitable heat sinking
- Label on plastic bag (see picture of another product's label in picture 2):
 - LASENCE®
 - G545D-010-10.5*17.6-15
 - 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



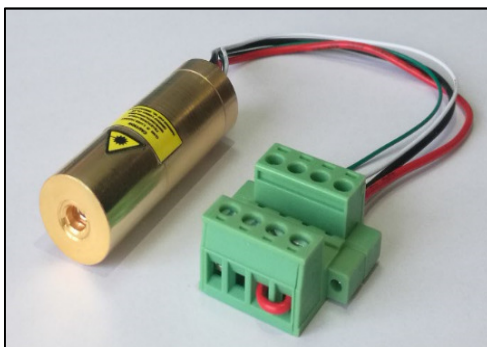
Picture 2



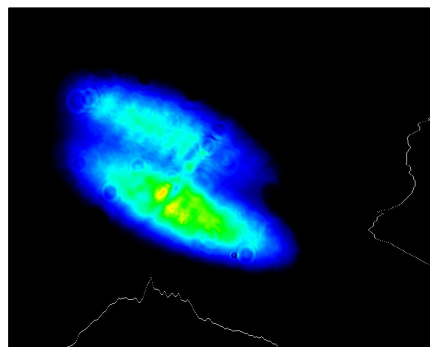
Picture 3



Picture 4



Picture 5



Typical Output Performance (examples)

1.) Power / Current vs. Case Temperature

