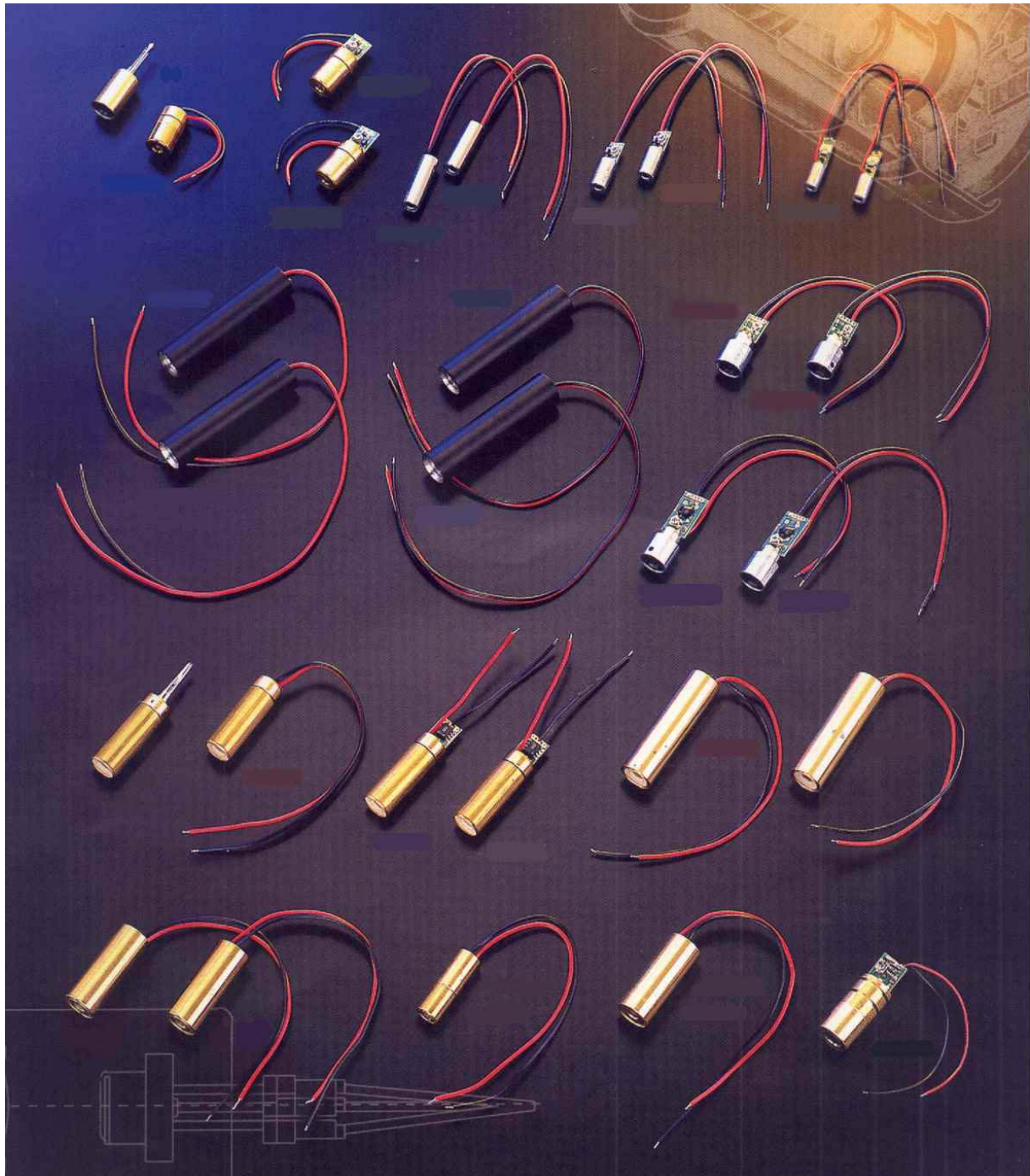


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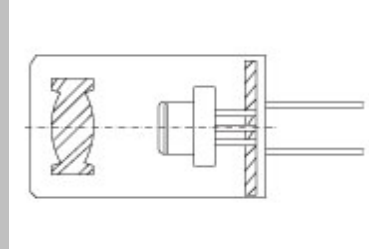
## LASER DIODE MODULES



# molenaar optics

industrial laser systems, measuring instruments, optical components

## Laser Diode Module



## Specifications

<b>Part Number:</b>	<b>LDB650123</b>
Wavelength:	650 +15/-5 nm
CW Output Power:	1.5 - 3.5 mW
On/Off Switch:	-
Output Power Adjustable:	Fixed
Duty Adjustable:	-
Focus Adjustable:	Pre-set
Collimator Lens:	Aspheric plastic Ø7mm
Cylinder lens and Window:	-
Spot size:	6 ± 2 mm at 5 meter
Divergence:	1.6 mrad
Connection Type:	Lead wires
Driver Circuit:	Auto power control
PCB Protection:	Inside housing
LED Indicator:	-
Operating Voltage:	2.7-5.0 V
Operating Current:	40 ± 15 mA
Operating Temperature:	+10 - +40°C
Average Lifetime:	10000 hrs
Laser Class:	Class 3a
Housing Diameter:	10.52 mm
Housing Length:	17.0 mm
Housing Material:	Brass
Housing Polarity:	Connected with +
E.S.D. Protection:	15 kV
Connector for AC adapter:	-
Heatsink/ Temp. control:	Recommended
Application:	Shock resistant

**WARNING: THIS LASER CAN CAUSE EYE DAMAGE! THE USER IS SELF-RESPONSIBLE FOR TAKING THE LEGALLY NECESSARY PRECAUTIONS FOR SAFE OPERATION!**

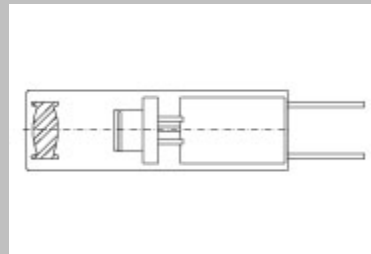
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## Laser Diode Module



## Specifications

<b>Part Number:</b>	<b>LDD650122</b>
Wavelength:	650 +15/-5 nm
CW Output Power:	max. 1 mW
On/Off Switch:	-
Output Power Adjustable:	Fixed
Duty Adjustable:	-
Focus Adjustable:	Pre-set
Collimator Lens:	Aspheric plastic Ø5mm
Cylinder lens and Window:	-
Spot size:	6 ± 2 mm at 5 meter
Divergence:	2.0 mrad
Connection Type:	Lead wires
Driver Circuit:	Auto power control
PCB Protection:	Inside housing
LED Indicator:	-
Operating Voltage:	2.7-5.0 V
Operating Current:	40 ± 15 mA
Operating Temperature:	+10 - +30°C
Average Lifetime:	100 hrs
Laser Class:	Class 2
Housing Diameter:	7.00 mm
Housing Length:	22.5 mm
Housing Material:	Steel
Housing Polarity:	Connected with +
E.S.D. Protection:	15 kV
Connector for AC adapter:	-
Heatsink/ Temp. control:	-
Application:	Shock resistant

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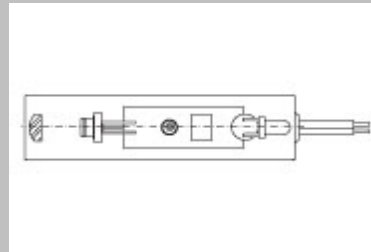
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## Laser Diode Module



## Specifications

<b>Part Number:</b>	<b>LDG650123</b>
Wavelength:	650 +15/-5 nm
CW Output Power:	max. 3.0 mW
On/Off Switch:	-
Output Power Adjustable:	Fixed
Duty Adjustable:	-
Focus Adjustable:	YES
Collimator Lens:	2 Glass Lenses Ø9mm
Cylinder lens and Window:	-
Spot size:	5 ± 1 mm at 5 meter
Divergence:	1.0 mrad
Connection Type:	Lead wires
Driver Circuit:	Auto power control
PCB Protection:	Inside housing
LED Indicator:	YES
Operating Voltage:	2.7-6.0 V
Operating Current:	40 ± 15 mA
Operating Temperature:	-10 - +50°C
Average Lifetime:	10000 hrs
Laser Class:	Class 3a
Housing Diameter:	12.5 mm
Housing Length:	54.0 mm
Housing Material:	Aluminium
Housing Polarity:	Connected with +
E.S.D. Protection:	15 kV
Connector for AC adapter:	-
Heatsink/ Temp. control:	Recommended
Application:	Professional

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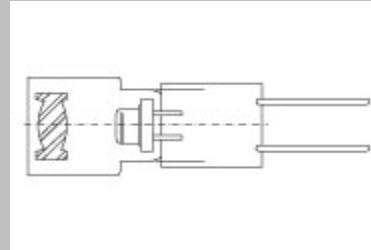
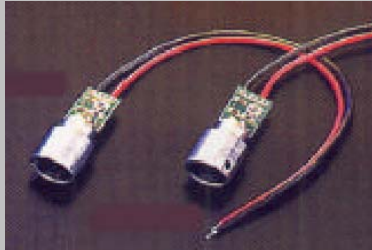
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## Laser Diode Module



## Specifications

<b>Part Number:</b>	<b>LDI650122</b>
Wavelength:	650 +15/-5 nm
CW Output Power:	max. 1 mW
On/Off Switch:	-
Output Power Adjustable:	Fixed
Duty Adjustable:	-
Focus Adjustable:	Pre-set
Collimator Lens:	Aspheric plastic Ø7mm
Cylinder lens and Window:	-
Spot size:	6 ± 2 mm at 5 meter
Divergence:	1.6 mrad
Connection Type:	Lead wires
Driver Circuit:	Auto power control
PCB Protection:	External
LED Indicator:	-
Operating Voltage:	2.7-5.0 V
Operating Current:	40 ± 15 mA
Operating Temperature:	+10 - +40°C
Average Lifetime:	100 hrs
Laser Class:	Class 2
Housing Diameter:	10.51 mm
Housing Length:	24.6 mm
Housing Material:	Zinc Alloy
Housing Polarity:	Connected with +
E.S.D. Protection:	15 kV
Connector for AC adapter:	-
Heatsink/ Temp. control:	-
Application:	Laser Sighting

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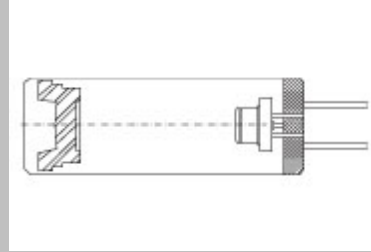
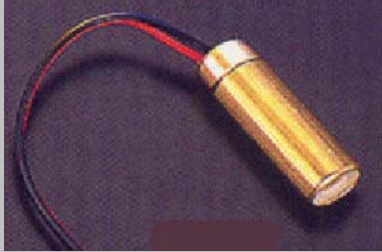
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## Laser Diode Module



## Specifications

<b>Part Number:</b>	<b>LDL650123</b>
Wavelength:	650 +15/-5 nm
CW Output Power:	max. 3.0 mW
On/Off Switch:	-
Output Power Adjustable:	Fixed
Duty Adjustable:	-
Focus Adjustable:	Pre-set
Collimator Lens:	Aspheric plastic Ø10mm
Cylinder lens and Window:	-
Spot size:	10 ± 2 mm at 20 meter
Divergence:	0.6 mrad
Connection Type:	Lead wires
Driver Circuit:	Auto power control
PCB Protection:	Inside housing
LED Indicator:	-
Operating Voltage:	3.0-5.0 V
Operating Current:	40 ± 15 mA
Operating Temperature:	0 - +50°C
Average Lifetime:	10000 hrs
Laser Class:	Class 3a
Housing Diameter:	10.52 mm
Housing Length:	30.0 mm
Housing Material:	Brass
Housing Polarity:	Connected with +
E.S.D. Protection:	15 kV
Connector for AC adapter:	-
Heatsink/ Temp. control:	Recommended
Application:	Professional

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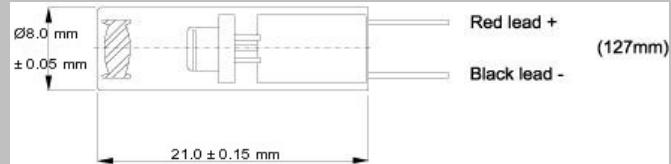
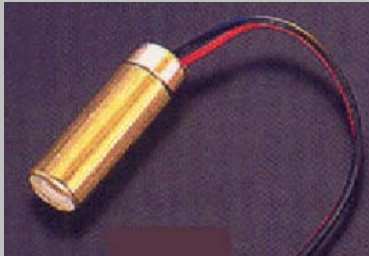
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## Laser Diode Module



## Specifications

<b>Part Number:</b>	<b>LDM650123</b>
Wavelength:	645 ~ 665 nm
CW Output Power:	2.5 ~ 3.0 mW
On/Off Switch:	-
Output Power Adjustable:	Fixed
Duty Adjustable:	-
Focus Adjustable:	Pre-set
Collimator Lens:	Aspheric plastic Ø5mm
Spot Size:	6 ± 1 mm at 5 meter
Divergence:	1.2 mrad
Connection Type:	Lead wires
Driver Circuit:	Auto power control
PCB Protection:	Inside housing
LED Indicator:	-
Operating Voltage:	3.0 ~ 5.0 VDC
Operating Current:	<50 mA
Operating Temperature Range:	+10 - +40°C
Storage Temperature Range:	-20 - +65°C
Average Lifetime:	10000 hrs
Laser Class:	Class 3a
Housing Diameter:	8.0 ± 0.05 mm
Housing Length:	21.0 ± 0.15 mm
Housing Material:	Brass
Housing Polarity:	Not specified
E.S.D. Protection:	15 kV
Connector for AC adapter:	-
Heatsink/ Temp. control:	Recommended
Application:	Professional

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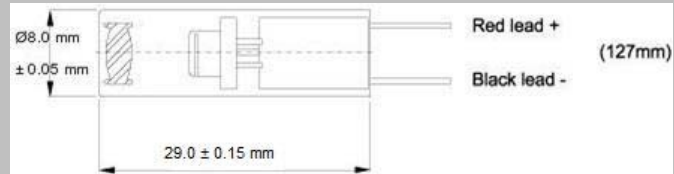
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industrial laser systems, measuring instruments, optical components

## Laser Diode Module



## Specifications

<b>Part Number:</b>	<b>LDN650123</b>
Wavelength:	645 ~ 665 nm
CW Output Power:	2.5 ~ 3.0 mW
On/Off Switch:	-
Output Power Adjustable:	Fixed
Duty Adjustable:	-
Focus Adjustable:	Pre-set
Collimator Lens:	Aspheric plastic Ø5mm
Spot Size:	6 ± 1 mm at 5 meter
Divergence:	1.2 mrad
Connection Type:	Lead wires
Driver Circuit:	Auto power control
PCB Protection:	Inside housing
LED Indicator:	-
Operating Voltage:	3.0 ~ 5.0 VDC
Operating Current:	<45 mA
Operating Temperature Range:	+10 - +40°C
Storage Temperature Range:	-20 - +65°C
Average Lifetime:	10000 hrs
Laser Class:	Class 3a
Housing Diameter:	8.0 ± 0.05 mm
Housing Length:	29.0 ± 0.15 mm
Housing Material:	Hard Anodized Aluminium
Housing Polarity:	Isolated from wires
E.S.D. Protection:	15 kV
Connector for AC adapter:	-
Heatsink/ Temp. control:	Recommended
Application:	Professional

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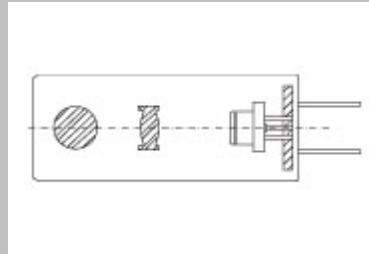
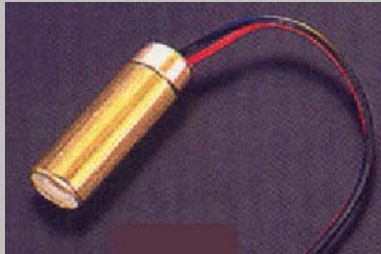
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industrial laser systems, measuring instruments, optical components

## Laser Diode Line Generator



## Specifications

<b>Part Number:</b>	<b>LDR650122</b>
Wavelength:	650 +15/-5 nm
CW Output Power:	max. 3.0 mW
On/Off Switch:	-
Output Power Adjustable:	Fixed
Duty Adjustable:	-
Focus Adjustable:	Pre-set
Collimator Lens:	Aspheric glass/plastic Ø7mm
Cylinder lens:	Quartz Ø5mm
Laser line accuracy:	<0.01° (40") at 4 meter
Divergence:	Angle 90°
Connection Type:	Lead wires
Driver Circuit:	Auto power control
PCB Protection:	Inside housing
LED Indicator:	-
Operating Voltage:	2.7-5.0 V
Operating Current:	40 ± 15 mA
Operating Temperature:	+10 - +40°C
Average Lifetime:	10000 hrs
Laser Class:	Class 3a
Housing Diameter:	12.5 mm
Housing Length:	30.0 mm
Housing Material:	Brass
Housing Polarity:	Isolated
E.S.D. Protection:	15 kV
Connector for AC adapter:	-
Heatsink/ Temp. control:	Recommended
Application:	Professional

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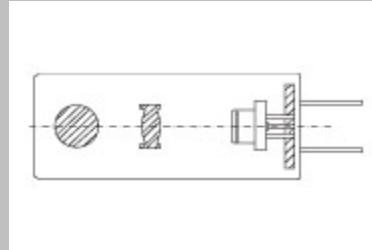
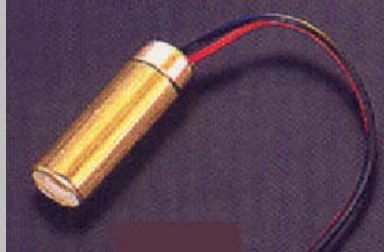
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## Laser Diode Line Generator 20mW



## Specifications

<b>Part Number:</b>	<b>LDR650323</b>
Wavelength:	650 +15/-5 nm
CW Output Power:	max. 20 mW
On/Off Switch:	-
Output Power Adjustable:	Fixed
Duty Adjustable:	-
Focus Adjustable:	Pre-set
Collimator Lens:	Aspheric glass lens
Cylinder lens and Window:	Quartz rod lens/flat glass output window
Width of laser line	<4mm at 4m
Divergence:	Angle 90°
Connection Type:	Lead wires
Driver Circuit:	Auto power control
PCB Protection:	Inside housing
LED Indicator:	-
Operating Voltage:	6.0-9.0 V
Operating Current:	100 ± 12 mA
Operating Temperature:	+10 - +45°C
Average Lifetime:	10000 hrs
Laser Class:	Class 3b
Housing Diameter:	13.0 mm
Housing Length:	42.0 mm
Housing Material:	Brass
Housing Polarity:	Isolated
E.S.D. Protection:	15 kV
Connector for AC adapter:	-
Heatsink/ Temp. control:	Recommended
Application:	Professional

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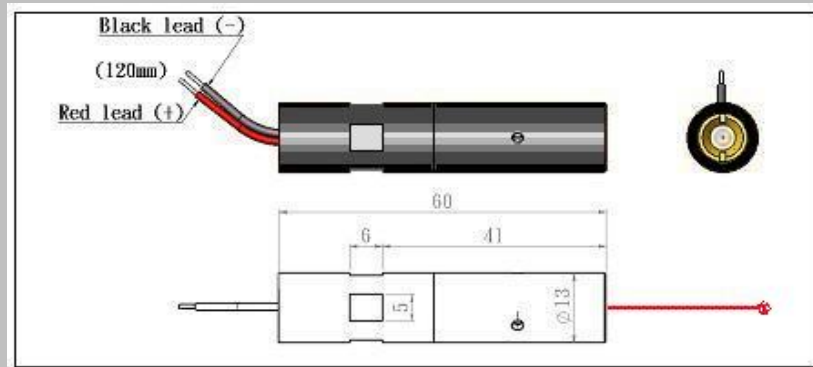
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## Red Laser Diode Module



## Specifications

<b>Part Number:</b>	<b>LDV635123A</b>
Wavelength:	630-645 nm
CW Output Power:	2~3 mW
Output Power Stability:	<10%
Output Power Adjustable:	Fixed
Focus Adjustable:	Fixed
Collimator Lens:	Multi-Element Glass Optics
Spot size:	~2 mm at 3-5 meter
Divergence:	<1.2 mrad (far field)
Connection Type:	Lead wires (+ red; - black), length 120mm
Driver Circuit:	Auto power control
PCB Protection:	Inside housing
Pointing Accuracy:	<1.0°
Operating Voltage:	3 - 5 V
Operating Current:	≤50 mA
Operating Temperature:	-10°C ~ +40°C (Storage: -20°C ~ +60°C)
Average Lifetime:	5.000 hrs
Laser Class:	Class 3A
Housing Diameter:	Ø13.0 mm
Housing Length:	60.0 mm
Housing Material:	Hard-anodysed Aluminium
Housing Polarity:	Isolated from lead wires
E.S.D. Protection:	15 kV
Heatsink/ Temp. control:	Recommended
Application:	Professional

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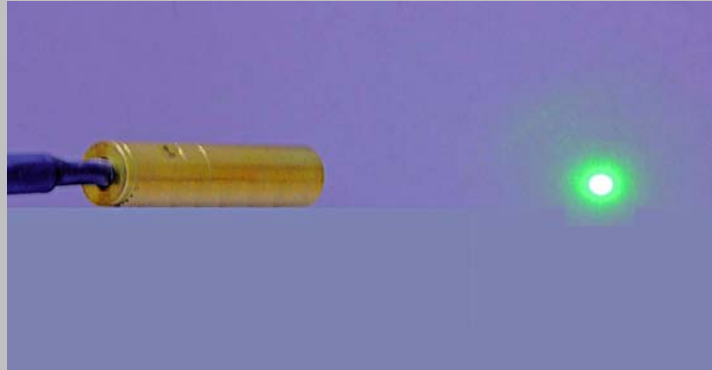
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## Green Laser Diode Module



## Specifications

<b>Part Number:</b>	<b>LDV532122</b>
Wavelength:	532 nm
CW Output Power:	< 1.0 mW
Output Power Stability:	<10% at 25°C after 5 minutes warm up
Output Power Adjustable:	Fixed
Duty Adjustable:	-
Focus Adjustable:	Fixed
Collimator Lens:	Multi-Element Glass Optics
Cylinder lens and Window:	-
Spot size:	<6 mm at 5 meter; <18 mm at 30 meter
Divergence:	<0.3 mrad (half angle)
Connection Type:	Lead wires
Driver Circuit:	Auto power control
PCB Protection:	Inside housing
LED Indicator:	-
Operating Voltage:	2.7-3.3 V
Operating Current:	≤300 mA
Operating Temperature:	15 ~ 35°C
Average Lifetime:	3.000 hrs
Laser Class:	Class 2
Housing Diameter:	Ø13.0 mm
Housing Length:	60.0 mm
Housing Material:	Brass
Housing Polarity:	Connected with +
E.S.D. Protection:	15 kV
Connector for AC adapter:	-
Heatsink/ Temp. control:	Recommended
Application:	Professional

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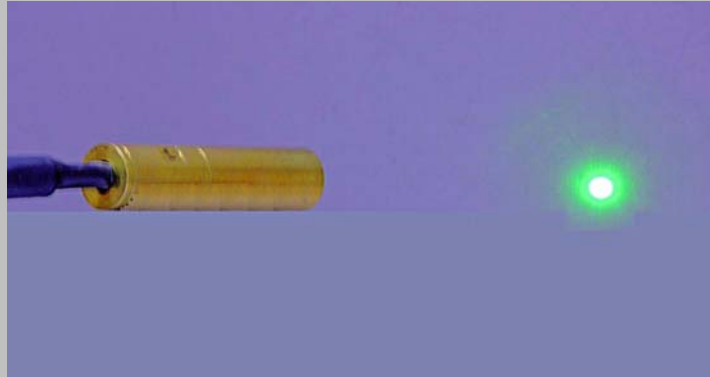
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industrial laser systems, measuring instruments, optical components

## Green Laser Diode Module



## Specifications

<b>Part Number:</b>	<b>LDV532323</b>
Wavelength:	532 nm
CW Output Power:	10~15 mW
Output Power Stability:	<10%
Output Power Adjustable:	Fixed
Focus Adjustable:	Fixed
Collimator Lens:	Multi-Element Glass Optics
Spot size:	4 ± 1 mm at 5 meter; 18 ± 2 mm at 30 meter
Divergence:	<0.6 mrad
Connection Type:	Lead wires (+ red; - black), length 120mm
Driver Circuit:	Auto power control
PCB Protection:	Inside housing
Pointing Accuracy:	<1.0°
Operating Voltage:	2.7-3.3 V
Operating Current:	≤300 mA
Operating Temperature:	15°C ~ 35°C (Storage: -40°C ~ +70°C)
Average Lifetime:	3.000 hrs
Laser Class:	Class 3B
Housing Diameter:	Ø13.0 mm
Housing Length:	60.0 mm
Housing Material:	Brass
Housing Polarity:	Connected with +
E.S.D. Protection:	15 kV
Heatsink/ Temp. control:	Recommended
Application:	Professional

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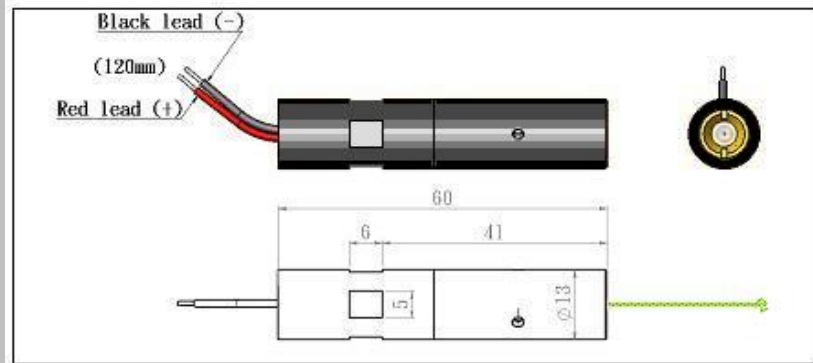
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## Green Laser Diode Module



## Specifications

<b>Part Number:</b>	<b>LDV532123A</b>
Wavelength:	532 nm
CW Output Power:	2~3 mW
Output Power Stability:	<10%
Output Power Adjustable:	Fixed
Focus Adjustable:	Fixed
Collimator Lens:	Multi-Element Glass Optics
Spot size:	~1 mm at 3-5 meter
Divergence:	<0.6 mrad (far field)
Connection Type:	Lead wires (+ red; - black), length 120mm
Driver Circuit:	Auto power control
PCB Protection:	Inside housing
Pointing Accuracy:	<1.0°
Operating Voltage:	2.7-3.3 V
Operating Current:	≤300 mA
Operating Temperature:	15°C ~ 35°C (Storage: -40°C ~ +70°C)
Average Lifetime:	3.000 hrs
Laser Class:	Class 3A
Housing Diameter:	Ø13.0 mm
Housing Length:	60.0 mm
Housing Material:	Hard-anodysed Aluminium
Housing Polarity:	Isolated from lead wires
E.S.D. Protection:	15 kV
Heatsink/ Temp. control:	Recommended
Application:	Professional

**WARNING: THIS LASER CAN CAUSE EYE DAMAGE! THE USER IS SELF-RESPONSIBLE FOR TAKING THE LEGALLY NECESSARY PRECAUTIONS FOR SAFE OPERATION!**

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