



635nm-980nm Cross Hair Generating Miniature Laser Diode Modules

With Miniature Size, Adjustable or Fixed Focus, and APC Circuit Design

PLP-X9 Series



Overview

The Lasermate PLP-X9 series laser diode modules with cross hair profile are designed for OEM applications with fine cross hair profile, low cost, miniature size and beam focusing requirements. Additional heat sink may be needed for laser module under continuously operating for a long period of time. Designed for OEM, the laser is ideal for a wide range of low power laser applications, such as general sighting, alignment, and positioning.

Features

- Wide range of wavelengths from 635nm to 980nm (including 650nm, 670nm, 780nm, 808nm, 850nm, 904nm)
- Different output power levels for all wavelengths
- Good performance and low cost
- Automatic Power Control (APC) circuit
- Adjustable or fixed focus
- Miniature design: Dia. 10.5mm x L. 15mm
- Beam profile: “+” cross hair
- Beam length: ~15.7cm @ 1m distance
- Full fan angle: ~9 degrees
- Size of cross lens: Dia. 7mm x T. 1mm

Product Overview

The following table shows the list of available part numbers, wavelength, optical output power, laser class, operating voltage, operating current, and operating temperature for PLP-X9 series laser modules.

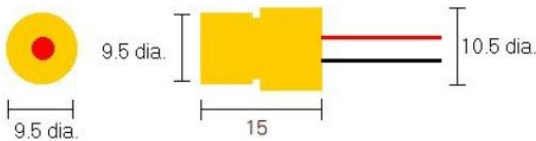
Part Number	Wavelength (nm)	Optical output power (mW)*	Laser class	Operating voltage (VDC)	Operating Current typical (mA)	Operating temperature (°C)	Focus
PLP6351AE-BX9	635	0.5-0.99	II	3-6	40	-10 to +40	Adjustable
PLP6351FE-BX9	635	0.5-0.99	II	3-6	40	-10 to +40	Fixed
PLP6353AE-BX9	635	2.1-3	IIIa	3-6	40	-10 to +40	Adjustable
PLP6353FE-BX9	635	2.1-3	IIIa	3-6	40	-10 to +40	Fixed
PLP6351AE-AX9	635	0.5-0.99	II	3-6	40	-10 to +50	Adjustable
PLP6351FE-AX9	635	0.5-0.99	II	3-6	40	-10 to +50	Fixed
PLP6353AE-AX9	635	2.1-3	IIIa	3-6	40	-10 to +50	Adjustable
PLP6353FE-AX9	635	2.1-3	IIIa	3-6	40	-10 to +50	Fixed
PLP6501AE-BX9	650	0.5-0.99	II	3-6	25	-10 to +40	Adjustable
PLP6501FE-BX9	650	0.5-0.99	II	3-6	25	-10 to +40	Fixed
PLP6503AE-BX9	650	2.1-3	IIIa	3-6	30	-10 to +40	Adjustable
PLP6503FE-BX9	650	2.1-3	IIIa	3-6	30	-10 to +40	Fixed
PLP6501AE-AX9	650	0.5-0.99	II	3-6	25	-10 to +50	Adjustable
PLP6501FE-AX9	650	0.5-0.99	II	3-6	25	-10 to +50	Fixed
PLP6503AE-AX9	650	2.1-3	IIIa	3-6	30	-10 to +50	Adjustable
PLP6503FE-AX9	650	2.1-3	IIIa	3-6	30	-10 to +50	Fixed
PLP6701AE-X9	670	0.5-0.99	II	3-6	40	-10 to +50	Adjustable
PLP6701FE-X9	670	0.5-0.99	II	3-6	40	-10 to +50	Fixed
PLP6703AE-X9	670	2.1-3	IIIa	3-6	40	-10 to +50	Adjustable
PLP6703FE-X9	670	2.1-3	IIIa	3-6	40	-10 to +50	Fixed
PLP7803AE-X9	780	2.1-3	IIIb	3-6	30	-10 to +50	Adjustable
PLP7803FE-X9	780	2.1-3	IIIb	3-6	30	-10 to +50	Fixed
PLP8083AE-X9	808	2.1-3	IIIb	3-6	30	-10 to +50	Adjustable
PLP8083FE-X9	808	2.1-3	IIIb	3-6	30	-10 to +50	Fixed
PLP8503AE-X9	850	2.1-3	IIIb	3-6	30	-10 to +50	Adjustable
PLP8503FE-X9	850	2.1-3	IIIb	3-6	30	-10 to +50	Fixed
PLP9043AE-X9	904	2.1-3	IIIb	3-6	30	-10 to +50	Adjustable
PLP9043FE-X9	904	2.1-3	IIIb	3-6	30	-10 to +50	Fixed
PLP9806AE-X9	980	4-6	IIIb	3-6	45	-10 to +50	Adjustable
PLP9806FE-X9	980	4-6	IIIb	3-6	45	-10 to +50	Fixed

* The optical output power before adding the cross-hair lens.

Specifications of PLP-X9 Series Laser Diode Modules with Cross Hair Lens

Wavelength (nm)	635	650	670	780	808	850	904	980
Laser light	Visible Red				Infrared			
Laser class	Class II <1mW, Class IIIa <5mW				Class IIIb			
Diode structure	Index guided							
Diode output power	5-10mW							
Operating current	25-50mA typical							
Operating voltage	3–6 VDC							
Drive circuit	Voltage regulated APC (automatic power control)							
Optics	Singlet plastic collimating lens plus the cross-hair lens							
Beam divergence	~9-degree full fan angle							
Beam profile	~15.7cm cross hair at 1m distance							
Focus	Standard: Adjustable (Optional: Fixed)							
Operating temperature	-10 to +40 °C or -10 to +50 °C							
Connector	Black wire -, red wire + & brass case +							
Dimensions	Brass housing: Dia. 10.5mm x L. 15mm + Cross hair lens: dia. 7mm x T. 1mm							
Weight	12 gm typical							
Cross hair optics	~9-degree full fan angle cross hair optics attached on the aperture							

Outline Dimensions of PLP Series Laser Diode Modules (unit: mm)



Additional Notes

- The PLP-X9 series laser modules are designated solely as OEM components for incorporation into the customer's end products. Therefore, it is the customer's responsibility to comply with the appropriate requirements of FDA 21CFR, section 1040.10 and 1040.11 for complete laser products. For the code of FDA regulations, please refer to [FDA Performance Standards for Light-Emitting Products](#) for detailed information.
- Additional heat sink may be needed if the laser module is operated continuously for a long period of time.
- Specifications are subject to change without notice.



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