



# DWM65851FA3 – 650nm/850nm Dual Wavelength Coaxial Laser Module, Ø15mm Housing, <1mW Output Power

Data Sheet



## Overview

The Lasermate DWM65851FA3 is a compact dual wavelength coaxial laser module that integrates a 650nm red laser and an 850nm near-infrared laser into a single coaxial beam. With an output power of less than 1mW, the laser module offers reliable optical output for various alignment, sensing, and low-light applications. The module features a 15mm diameter cylindrical housing and incorporates Automatic Power Control (APC) IC circuitry for stable and consistent laser output. Designed for easy integration into OEM systems, the DWM65851FA3 is suitable for operation in diverse ambient lighting environments.

## Features

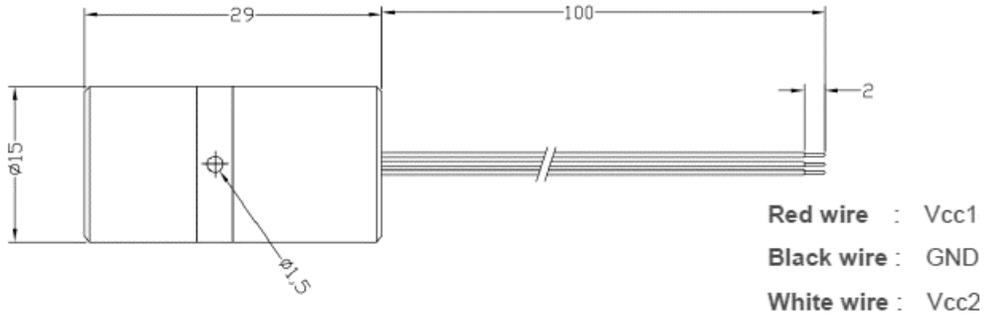
- Dual wavelength laser: 650nm (red) and 850nm (near-infrared)
- Coaxial single beam output
- Output power <1mW
- Built-in Automatic Power Control (APC) IC
- High-quality, focused laser beam
- Compact form factor: Ø15mm x L29mm
- Lightweight and user-friendly design

## Specifications

Absolute Maximum Ratings			
Parameter	Symbol	Rating	Unit
Power supply voltage	$V_{CC}$	6	V
Optical output power	$P_o$	<5	mW
Operation temperature	$T_{opr}$	0 to 50	°C
Storage temperature	$T_{stg}$	0 to 85	°C

Electrical and Optical Characteristics ( $T_c=25^\circ\text{C}$ )						
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Wavelength-850nm	$\lambda_1$	830	845	855	nm	$P_o = 3\text{mW}$
Wavelength-650nm	$\lambda_2$	645	655	660	nm	$P_o = 3\text{mW}$
Output power-850nm	$P_{out1}$	0.5		0.99	mW	Class IIIb
Output power-650nm	$P_{out2}$	0.5		0.99	mW	Class II
Operation current-850nm	$I_{op1}$	-	-	60	mA	$P_o = 3\text{mW}, V_{CC} = 3\text{V}$
Operation current-650nm	$I_{op2}$	-	-	45	mA	$P_o = 3\text{mW}, V_{CC} = 3\text{V}$
Operation voltage	$V_{op}$	-	3	6	Volt	
Laser beam spot size at 10m				<20mm		
Divergence angle				2mrad		

\*Sufficient heat dissipation is required for CW operation.

**Outline Dimensions (unit: mm)****Additional Notes**

- The 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.
- Specifications are subject to change without notice.