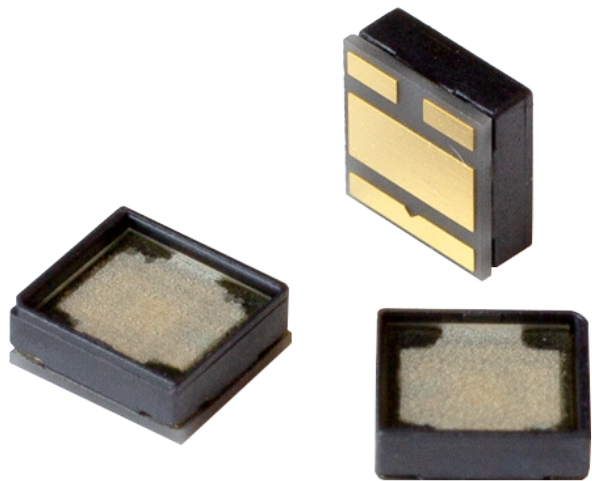


10 W Flood Illuminator Module



Lumentum 10 W flood illuminator leverages the company's decades of large-scale manufacturing expertise in providing industry-standard and field-proven VCSELs to the market. The state-of-the-art module's compact package integrates three-junction VCSEL arrays, an optical diffuser, a ceramic substrate, and a photodiode to provide high efficiency, reliability, and the highest optical peak power in a consumer-grade flood illuminator with built-in eye safety function.

Lumentum partners with driver IC providers to offer illumination solutions for different sensing applications. Lumentum also provides reference designs of custom driver circuits together with VCSEL for special applications that may require higher power and narrower pulse width.

Key Features

- 10 W peak optical power
- Compact dimension: 3.5 x 3.2 x 1.3 mm
- FOV: 110 x 85 degree
- High efficiency and reliability
- PD embedded for eye safety monitoring

Applications

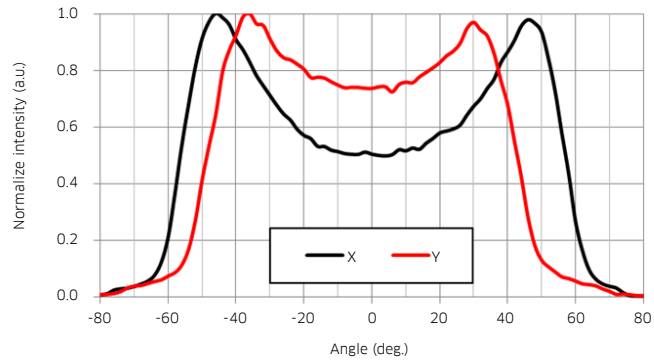
- Time-of-flight (ToF) 3D sensing

Electrical and Optical Characteristics

	Symbol	Units	Minimum	Typical	Maximum	Condition
Electrical						
Output optical power	P_o	W	9.0	10.0	11.0	I_F 4.5A (Note1)
Threshold current	I_{th}	A	0.35	0.6	0.9	
Forward voltage	V_f	V	4.5	5.0	5.4	
Power conversion efficiency	PCE	%	40	45	47	
Slope efficiency	SE	W/A	2.1	2.4	2.8	
Optical						
Center wavelength	λ_p	nm	933	940	947	I_F 4.5A
Wavelength temperature coefficient	$d\lambda/dT$	nm/°C		0.07		-40°C to 105°C
Horizontal FOV	FOVx	deg		110		See Note 2 & 3
Vertical FOV	FOVy	deg		85		See Note 2 & 3
Photodiode monitor current	I_m	mA		6.8		Vbias= 5V, I_F = 4.5 A
Photodiode coupling factor	CF	mA/W		0.68		Vbias= 5V, I_F = 4.5 A

Note:

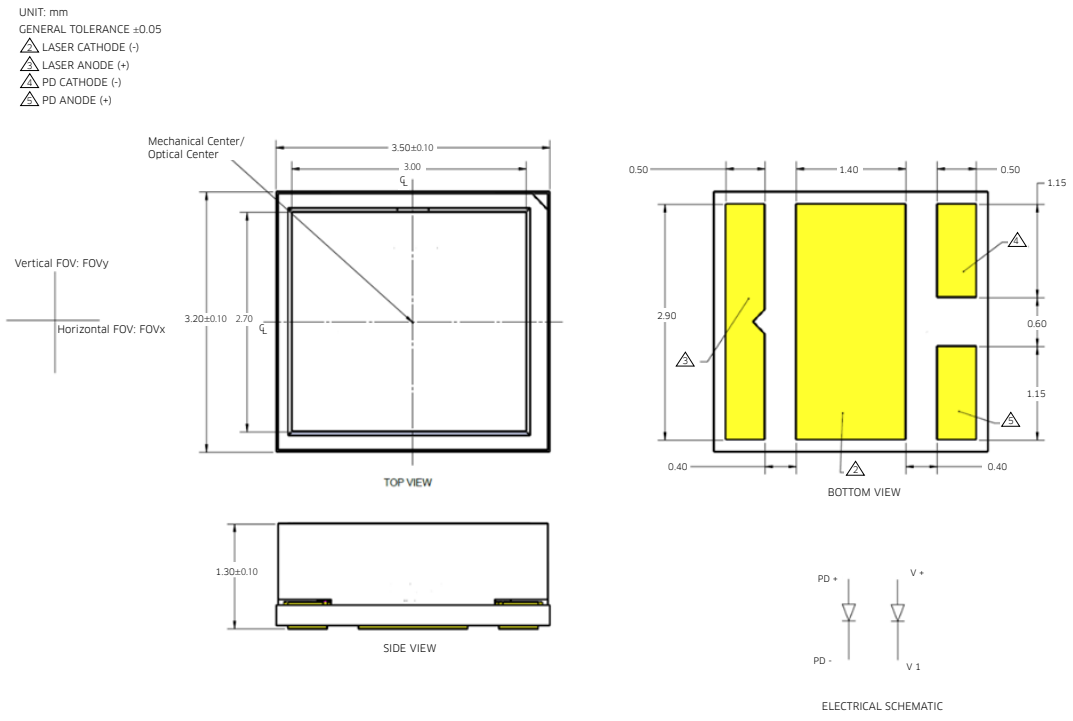
1. Test condition: $T_{op} = 25^\circ\text{C}$, $I_F = 4.5\text{A}$, 500us pulse width, single pulse
2. FOV values are based on diffuser specifications
3. Sample FOV characteristics



Absolute Maximum Rating

	Symbol	Units	Minimum	Maximum
Forward current	I_F	A	0	5
Photodiode reverse bias voltage	V_{pd}	V	0	20
Temperature range and storage conditions				
Operating temperature range	T_{OP}	°C	-20	70
Storage temperature range	T_{STO}	°C	-40	125

Mechanical Specification



Laser Safety



Notes:

1. This component requires the provision of drive and control electronics before emitting laser radiation.
2. Laser classification depends upon the system control circuit and any laser safety features provided.
3. Lumentum is unable to determine the laser Class or to test and certify this device to IEC 60825-1. Likewise, for FDA/CDRH certification. Both IEC 60825-1 and FDA/CDRH certifications are system level requirements.
4. Lumentum has registered this laser component with the FDA/CDRH as an OEM component. Please contact Lumentum for an FDA accession no. for this laser component.

Ordering Information

For more information on this or other products and their availability, please contact your local Lumentum account manager or Lumentum directly at customer.service@lumentum.com.

Description	Ordering number
10 W Flood Illuminator Module	32491002-001



North America
Toll Free: 844 810 LITE (5483)

Outside North America
Toll Free: 800 000 LITE (5483)

China
Toll Free: 400 120 LITE (5483)

© 2021 Lumentum Operations LLC
Product specifications and descriptions in this document are subject to change without notice.