



280nm 0.5mW UV LED Laser Diode



● Product Description

The 280nm LED is a deep ultraviolet LED with a peak emission wavelength from 275nm to 285nm. The LED is hermetically sealed in a metal-glass welded package. It incorporates advanced semiconductor materials, chip design, and a robust package with advanced optical properties. This is designed for optical sensing, medical, and analytical instrumentation for chemical and biological analysis in the deep UV spectral range.



- **Product features**

Deep UV band; Low power consumption; Compact package; Fast response;

Long lifetime

- **Part Number**

MP-LED-280-0.5-T039

- **Application area**

Surface sterilization | Water quality testing | Biological instruments |

Forensic detection | Ozone monitoring

- **Core parameters**

Center wavelength	Output power
280nm	0.5mW

● General Parameters

Model Specifications

Parameter	Symbol	Min.	Typical	Max.	Unit	Remarks
Peak Wavelength	λ	275	280	285	nm	
TO Temperature	T_{TO}	-10		55	°C	
Chip Temperature	T_{OP}	20		55	°C	
Threshold	I_{TH}		0.5		mA	
Output Power	P_{opt}	0.1	0.3	0.5	mW	
Threshold Voltage	U_{TH}		5		V	
Laser Voltage	U_{OP}		6	7	V	
Drive Current	I		25	30	mA	
Beam Divergence	θ		7		°	Full $1/e^2$ width
Spectral Bandwidth	$\Delta\nu$		11	15	nm	
Power Dissipation	P_d		180		mw	
Thermal Resistance(T_j-T_{case})[1]			50		°C/w	

Notes:

Storage temperature: -40~125°C

TO operating temperature: -40 ~85°C

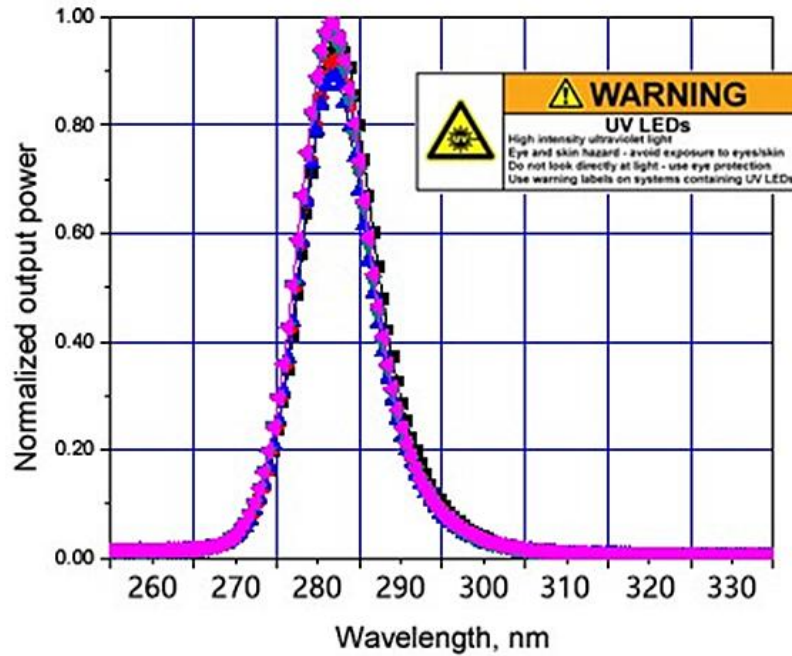
Forward laser current: 30mA

Soldering temperature*: 190°C



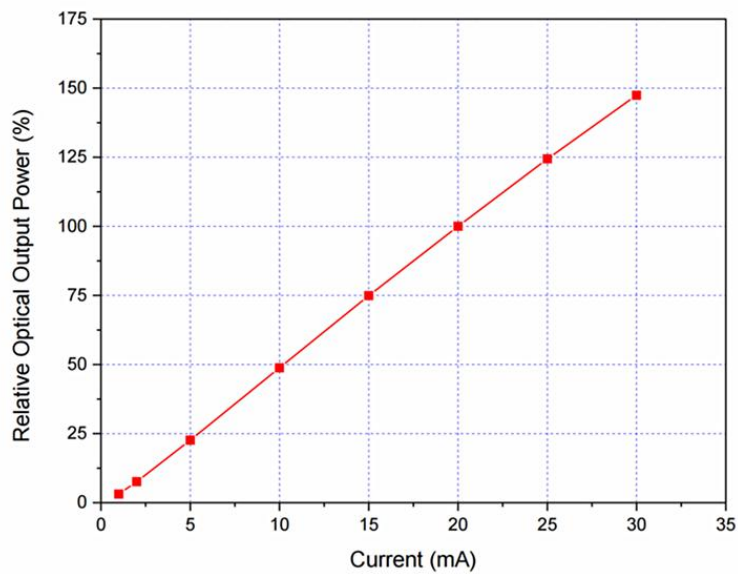
Characteristic Curves

Spectral graph



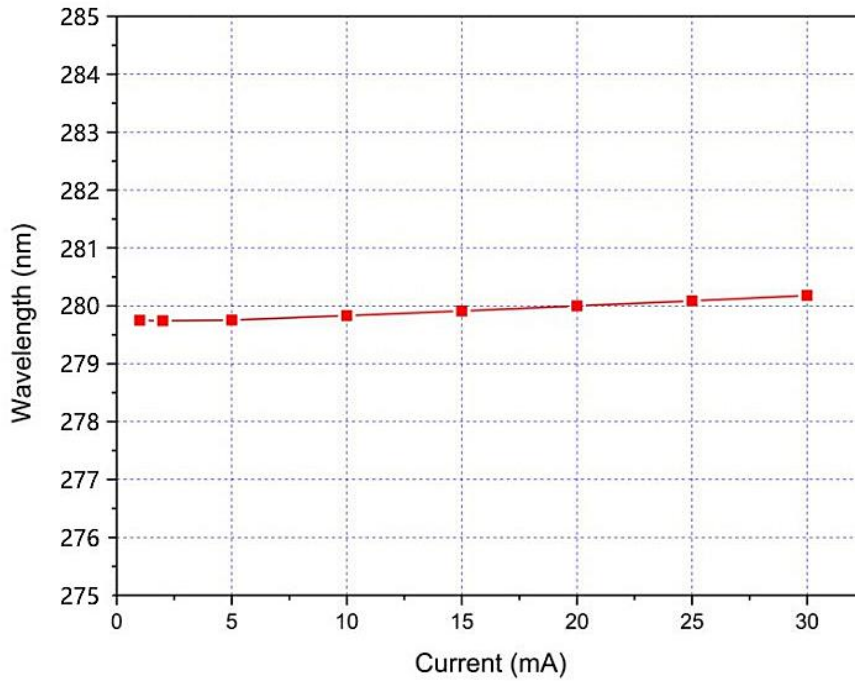
LIV (Light-Current-Voltage) curve

$T_a = 25\text{ }^\circ\text{C}$



Relative power vs. drive current curve

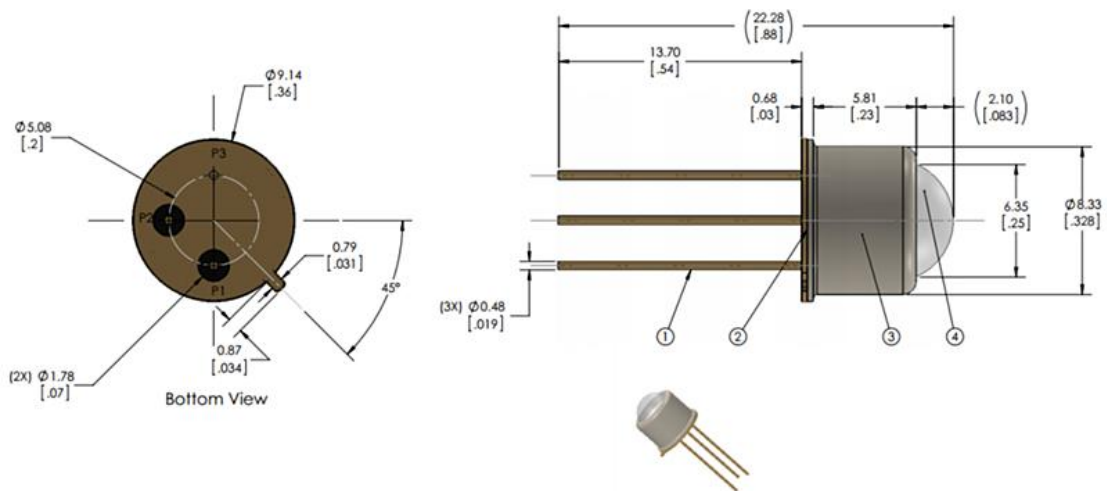
$T_a = 25\text{ }^\circ\text{C}$



Drive current vs. wavelength curve

Product Specifications

Material Information:





Material information	PIN#	Pin definition
1、 Gold-plated pin	P1	Anode(+)
2、 TO39 header	P2	Cathode(-)
3、 Gold cap	P3	Case
4、 Hemispherical lens		

Note:

[1] Dimensions in mm / [in]

[2] Not to scale

[3] Dimensions for reference only

[4] We reserve the right to change dimensions without notice

Typical Divergence Angle Diagram

