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High-Power Laser Diode 980nm

Description

The 980nm series high power laser diodes with optimized QW structure have a high reliability, high performance. It has several structures of emitter width. The 980nm series high power laser diodes can get 0.3W、0.5W、1.0W、and 2.0W at RT and CW condition. These products can be applied to solid-state laser pumping sources, medical usage, Infrared Sources for Night Viewing, and Information Recognition applications.

Features	Applications
* 50mW、300mW、500mW、1.0W、2.0W、3.0W CW Output Power * Typical 980nm emission wavelength * Variety of emitter width: 50μm, 100μm, 200μm * Optimized QW Structure * Package: C-mount & TO Mount	* Solid-state Laser Pumping * Medical Usage * Target Designator * Free-space Optical Communication

Specifications（25℃）

Type	ASP-LDM-0980-300m-*2	ASP-LDM-0980-500m-*2	ASP-LDM-0980-001W-*3	ASP-LDM-0980-002W-*4	ASP-LDM-0980-003W-*4	Unit
Optical Specification						
CW Output Power P_o	300	500	1000	2000	3000	mW
Center Wavelength λ_c	980	980	980	980	980	nm
Wavelength Tolerance	±10	±10	±10	±10	±10	nm
Spectral Width Δλ	≤2.5	≤2.5	≤2.5	≤2.5	≤2.5	nm
Emitting Area	50×1	50×1	100×1	150×1	150×1	μm
Wavelength Temperature Coefficient	0.4	0.4	0.4	0.4	0.4	nm/℃
Beam Divergence $\theta_{\perp} \times \theta_{\parallel}$	40×10	40×10	40×10	40×10	40×10	deg
Polarization	TE	TE	TE	TE	TE	

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Electrical Specification						
Slope Efficiency E_s	≥0.85	≥0.85	≥0.88	≥0.9	≥1	W/A
Threshold Current I_{th}	≤0.15	≤0.15	≤0.25	≤0.5	≤0.70	A
Operating Current I_o	≤0.55	≤0.7	≤1.36	≤2.56	≤3.3	A
Operating Voltage V_f	≤2.0	≤2.0	≤2.0	≤2.0	≤2.0	V
Series Resistance R_d	≤0.80	≤0.60	≤0.50	≤0.25	≤0.15	Ω
Package Style	C-Mount、TO-3	C-Mount、TO-3	C-Mount、TO-3	C-Mount、TO-3	C-Mount、TO-3	
Absolute Maximum Ratings						
Reverse Voltage V_r	2.0	2.0	2.0	2.0	2.0	V
Operating Temperature T_o	25	25	25	25	25	℃
Storage Temperature T_{stg}	-10～60	-10～60	-10～60	-10～60	-10～60	℃

Notes:

1. High power laser diodes are high energy laser devices. It is harmful to human body and health. Never look directly into the laser output port.
2. High power laser diodes could operate in forward voltage. The reverse current and voltage should not be higher than 25μA and 3 V, respectively.
3. Heavy humidity can get dew on the LD then damage the LD.
4. The generated heat must be removed in time when the LD working.
5. The high temperature will effect the performance of the products. The lifetime can also be shortened by high temperature.
6. The operating current and optical power of laser must not be higher than the given rate current and power. The excessive current would accelerate aging and shorten lifetime, even damage the LD.
7. The semiconductor laser diode is a sensitive electronic device. Please observe precaution for handling electrostatitic sensitive devices.

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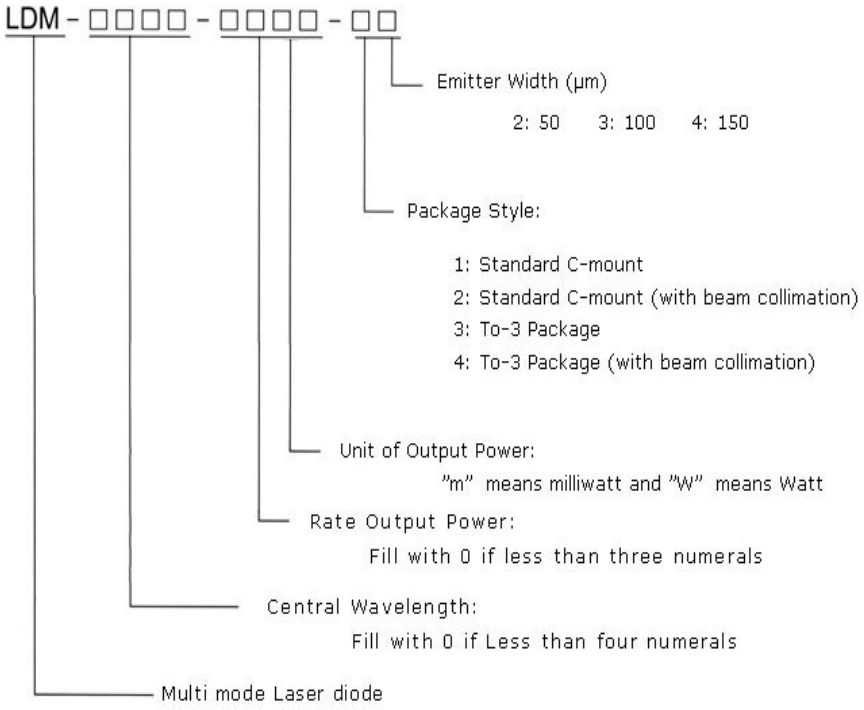
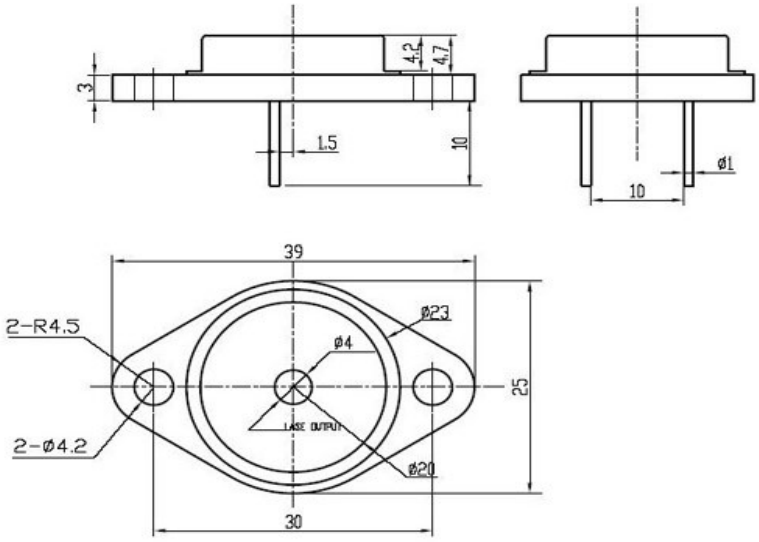
Order Information



Package Dimensions
To-3 Package



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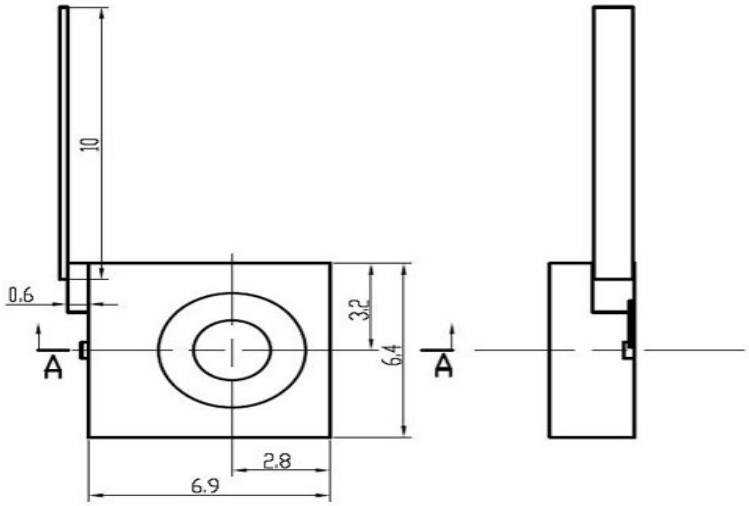
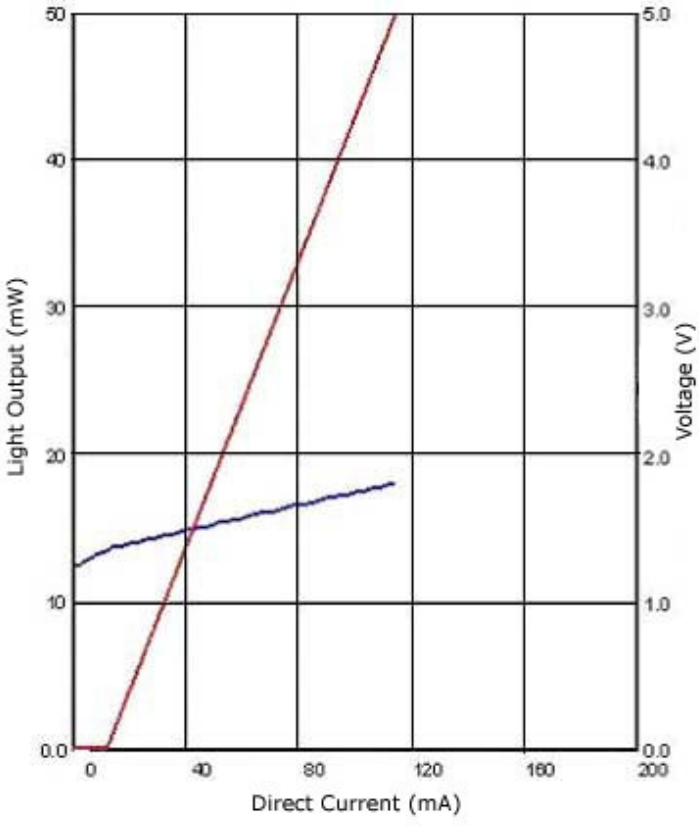
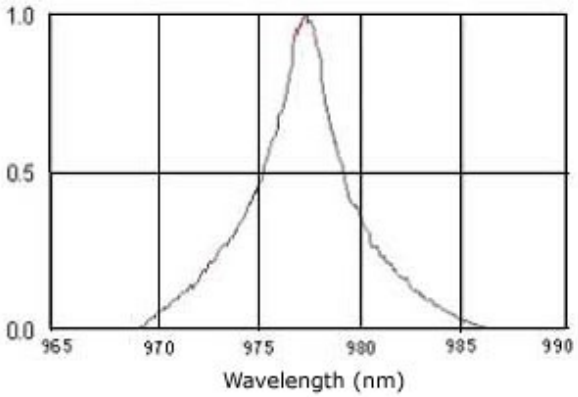
C-mount Heat Sink:
C-mount ©:



Typical Performance Curves





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