

**DL-4038-025****High Power AlGaInP Laser Diode****Overview**

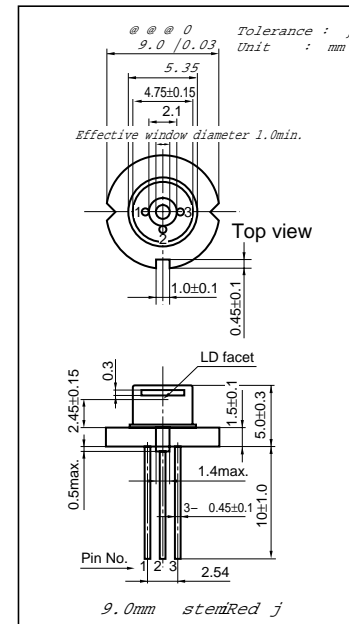
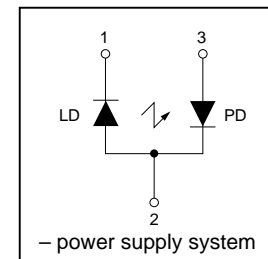
DL-4038-025 is a high power 635 nm (Typ.) AlGaInP laser diode. The lasing wavelength is the same as He-Ne gas lasers. DL-4038-025 is suitable for applications such as laser printers, line markers and other optical information systems.

Features

- Short wavelength : 635 nm (Typ.)
- High output power : 20mW CW
- Low threshold current : $I_{th} = 45$ mA (Typ.)
- Low operating voltage : $V_{op} = 2.3$ V (Typ.)

Absolute Maximum Ratings at $T_c=25^\circ\text{C}$

Parameter		Symbol	Ratings	Unit
Light Output	CW	P_o	20	mW
Reverse Voltage	Laser	V_R	2	V
	PIN		30	
Operating Temperature		T_{opr}	-10 to +40	$^\circ\text{C}$
Storage Temperature		T_{stg}	-40 to +85	$^\circ\text{C}$

Package Dimensions**Electrical Connection****Electrical and Optical Characteristics at $T_c=25^\circ\text{C}$**

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold Current		I_{th}	CW	-	45	70	mA
Operating Current		I_{op}	$P_o=20\text{mW}$	-	80	110	mA
Operating Voltage		V_{op}	$P_o=20\text{mW}$	-	2.3	2.5	V
Lasing Wavelength		λ_p	$P_o=20\text{mW}$	-	635	645	nm
Beam Divergence	1) Perpendicular	θ_{\perp}	$P_o=20\text{mW}$	20	25	35	deg.
	Parallel	θ_{\parallel}	$P_o=20\text{mW}$	6	7	10	deg.
Off Axis Angle	Perpendicular	$\Delta\theta_{\perp}$	-	-	-	± 3	deg.
	Parallel	$\Delta\theta_{\parallel}$	-	-	-	± 3	deg.
Differential Efficiency		dP_o/dI_{op}	-	-	0.6	-	mW/mA
Monitoring Output Current		I_m	$P_o=20\text{mW}$	-	0.03	-	mA
Astigmatism		A_s	$P_o=20\text{mW}$	-	10	-	μm

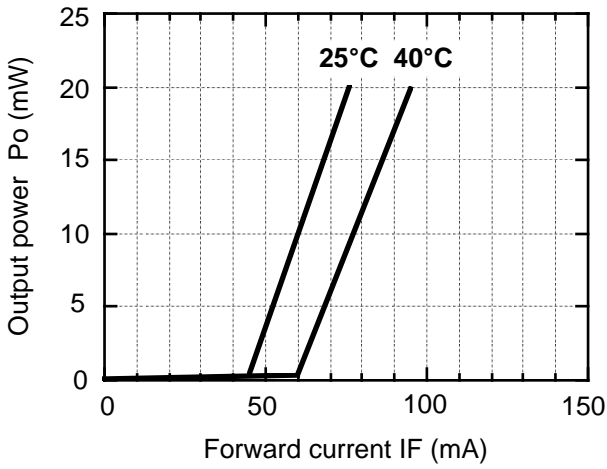
1) Full angle at half maximum Note : The above product specification are subject to change without notice.

SANYO Electric Co., Ltd. Semiconductor Business Headquarters

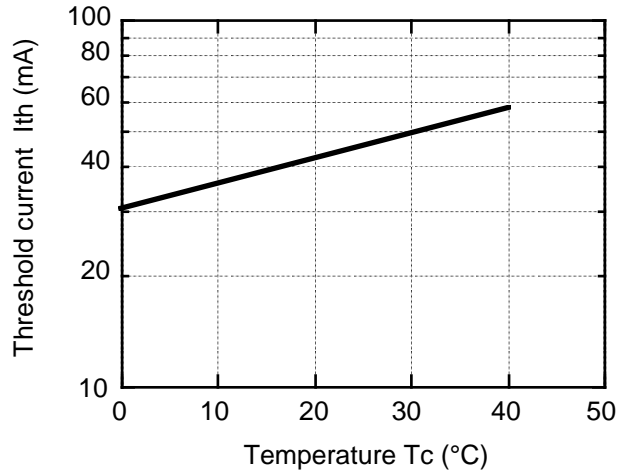
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

Characteristics

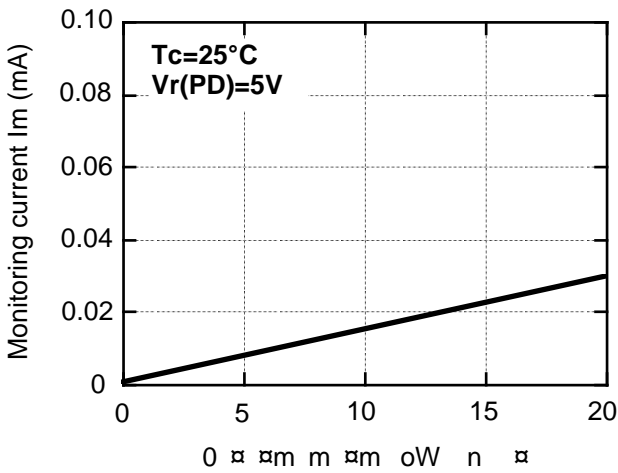
Output power vs. Forward current



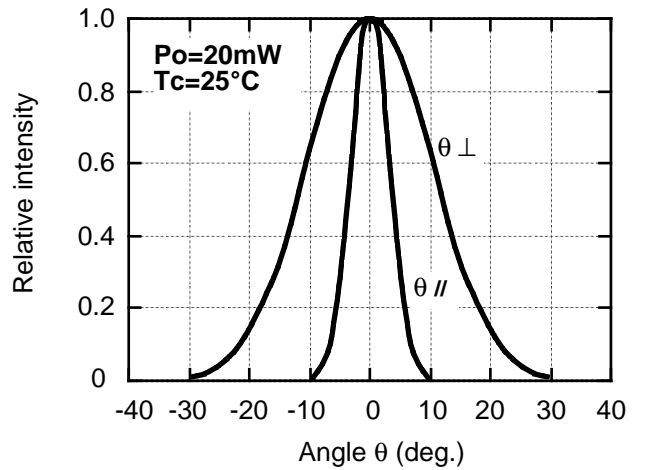
Threshold current vs. Temperature



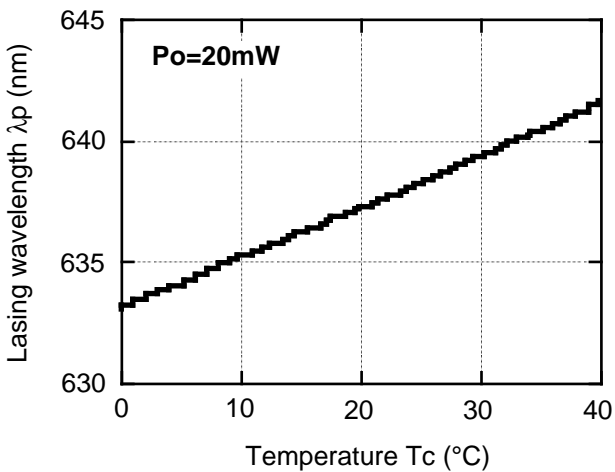
Monitoring current vs. Output power



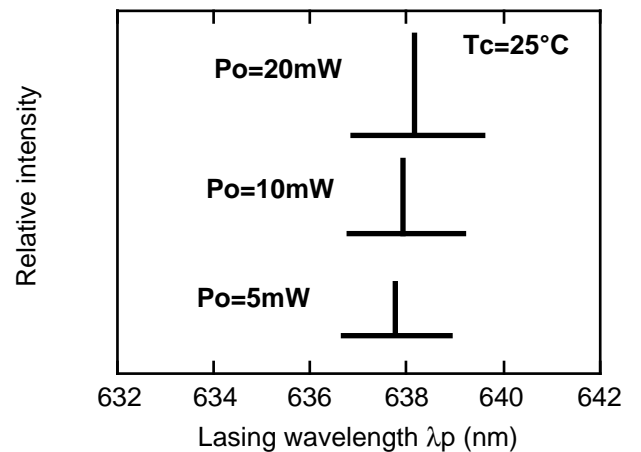
Beam divergence



Lasing wavelength vs. Temperature



Lasing wavelength vs. Output power



 **CAUTION**

1. No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster / crime-prevention equipment or the like, and the failure of which may directly or indirectly cause injury, death or property loss.
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Precautionary instructions in handling gallium arsenic products

Special precautions must be taken in handling this product because it contains, gallium arsenic, which is designated as a toxic substance by law. Be sure to adhere strictly to all applicable laws and regulations enacted for this substance, particularly when it comes to disposal.

Manufactured by ; **Tottori SANYO Electric Co., Ltd.**
Electronics Device Bussiness Headquarters LED Division
5-318, Tachikawa-cho, Tottori City, 680-8634 Japan
TEL: +81-857-21-2137 FAX: +81-857-21-2161