

SPECIFICATIONS

Laser Diode

GH04580A2G



Notice

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ELECTRONIC COMPONENTS AND DEVICES BU
SHARP CORPORATION

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 - Traffic signals • Gas leakage sensor breakers • Rescue and security equipment
 - Other safety equipment
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 - Space equipment • Telecommunication equipment (for trunk lines)
 - Nuclear power control equipment • Medical equipment
- (5) Please contact and consult with a Sharp sales representative if there are any question regarding interpretation of the above four paragraphs.

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- (2) intentional act, negligence or wrong/poor handling.
- (3) equipment which Sharp products are connected to or mounted in.
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- (5) installation problem.
- (6) act of God or other disaster (natural disaster, fire, flood, etc.)
- (7) external factors (abnormal voltage, abnormal electromagnetic wave, fire, etc.)
- (8) special environment (factory, coastal areas, hotspring area, etc.)
- (9) phenomenon which cannot be foreseen based on the practical technologies at the time of shipment.
- (10) the factors not included in the product specification sheet.

4. Please contact and consult with a Sharp sales representative for any questions about Sharp product.

■ Ratings and Characteristics

Absolute Maximum Ratings

(Tc=25°C(Note 1))

Parameter	Symbol	Value	Unit
Optical power output (CW)	P _o	85	mW
Reverse voltage	V _{rl}	2	V
Operating temperature (Case temperature)	T _{op} (c)	-10 ~ +70	°C
Storage temperature	T _{stg}	-40 ~ +85	°C
Soldering temperature (Note 2)	T _{sld}	350	°C

(Note 1) T_c : Case temperature

(Note 2) Soldering temperature means soldering iron tip temperature (The power 20W) while soldering.
Soldering position is 1.6mm apart from bottom edge of the case.(Immersion time: ≤3s)

Electro-optical Characteristics

(Tc=25°C(Note 1))

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit	
Throshold current	I _{th}	-	-	22	40	mA	
Operating current	I _{op}	P _o = 80 mW	-	84	120	mA	
Operating voltage	V _{op}		-	5.1	6	V	
Wavelength	λ _p		440	450	460	nm	
Half Intensity Angle (Parallel) (Note 2,3)	θ _∥		6	10	14	°	
Half Intensity Angle (Perpendicular) (Note 2,3)	θ _⊥		19	24	29	°	
Ripple (Note 3,4)	RI2		-	-	30	%	
Misalignment angle (Parallel) (Note 3)	Δθ _∥		-3	0	+3	°	
Misalignment angle (Perpendicular) (Note 3)	Δθ _⊥		-3	0	+3	°	
Differential efficiency	η _d		$\frac{70mW}{I(80mW)-I(10mW)}$	0.8	1.3	-	mW/mA
Kink (Note 5)	K-LI		P1=17mW, P2=51mW P3=85mW	-10	-	10	%

(Note 1) Initial value, Continuous Wave Operation

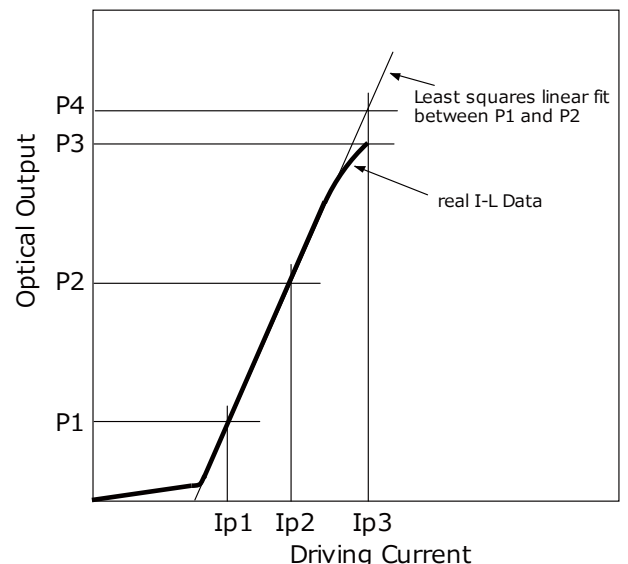
(Note 2) Angle of 50% peak intensity (Full angle at half-maximum)

(Note 3) Parallel to the junction plane(X-Z plane)
Perpendicular to the junction plane(Y-Z plane)

(Note 4) RI2=ΔP/P

ΔP:the maximum deviation of the far field pattern from its approximate curve
P:the peak of the approximate curve
•Approximate curve is calculated from the measuring data within the center area at 40% peak value.
•ΔP is calculated on the area within

(Note 5) Definition of K-LI $K-LI = (P4 - P3) / P3$



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