

GH16507A2A

(Under development)

■ Features

- (1) ϕ 5.6mm open type insert lead frame structure
(Optically compatible with the conventional ϕ 5.6mm package)
- (2) Maximum optical power output : 7mW (CW)
- (3) Wavelength : TYP. 654nm
- (4) Low current drive type

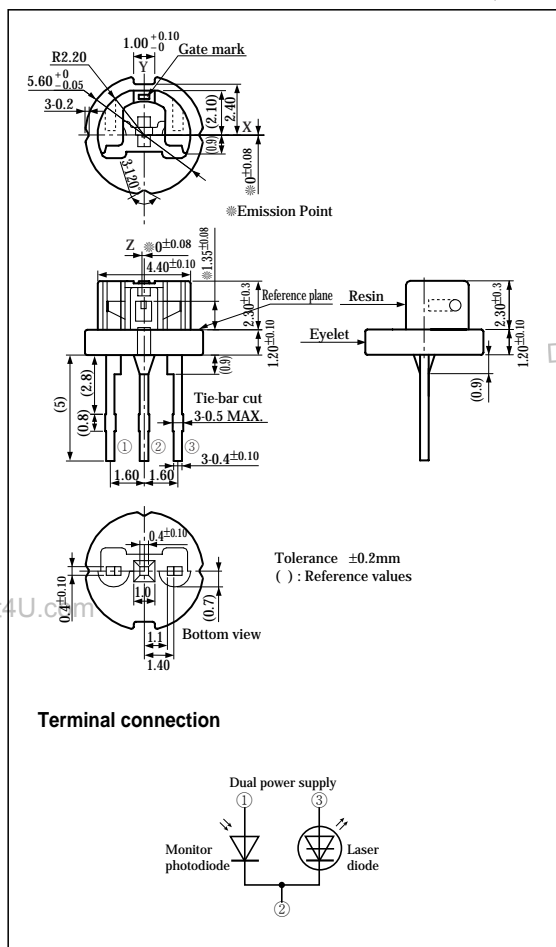
■ Applications

- (1) DVD-ROM drives
- (2) DVD video players

Insert Frame Structure, Red Laser Diode for DVD Video Player (654nm-7mW)

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings

($T_c=25^\circ\text{C}$ ^{*1})

Parameter	Symbol	Rating	Unit
^{*3} Optical power output	P_O	7	mW
Reverse voltage	Laser	V_{rl}	2
	Monitor photodiode	V_{rd}	30
^{*1} Operating temperature	$T_{op(c)}$	-10 to +70	$^\circ\text{C}$
Storage temperature	T_{stg}	-40 to +85	$^\circ\text{C}$
^{*2} Soldering temperature	T_{sld}	260	$^\circ\text{C}$

^{*1} Case temperature

^{*2} At the position of 1.6mm or more from the lead base (within 5s)

^{*3} CW (Continuous Wave) drive

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■ Electro-optical Characteristics^{*1}

(T_c=25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit	
Threshold current	I _{th}	-	-	(25)	40	mA	
Operating current	I _{op}	P _o =5mW	-	(35)	50	mA	
Operating voltage	V _{op}		-	(2.3)	3.0	V	
Wavelength	λ _p		640	(654)	660	nm	
Half intensity angle	^{*2*} Parallel		θ//	7	(8.5)	10	°
	^{*2*} Perpendicular		θ⊥	23	(29)	33	°
^{*4} Ripple	R _i		-20	-	+20	%	
Misalignment angle	^{*3} Parallel		Δθ//	-2	-	+2	°
	^{*3} Perpendicular		Δθ⊥	-3	-	+3	°
Differential efficiency	η _d		$\frac{3mW}{I(5mW)-I(2mW)}$	0.3	(0.55)	0.8	mW/mA
Interference pattern intensity	α		P _o =5mW	-	-	1	-

^{*1} Initial value, CW (Continuous Wave) drive

^{*2} Angle at 50% peak intensity (full-width at half-maximum)

^{*3} Parallel to the junction plane (X-Z plane), Perpendicular to the junction plane (Y-Z plane)

^{*4} R_i=ΔP/P ΔP : the maximum deviation of the far field pattern from its approximate curve P : the peak of the approximate curve

■ Electrical Characteristics of Photodiode

(T_c=25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Output current	I _m	P _o =5mW, V _{rd} =5V	(0.05)	(0.15)	(0.3)	mA
Dark current	I _D	V _{rd} =5V	-	-	150	nA
Terminal capacitance	C _t	V _{rd} =5V, f=1MHz	-	(9)	-	pF

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● Operating and handling precautions

- (1) This product employs open type package. Be careful not to touch gold wires, laser chips, or monitor sub-mount chips directly, or characteristics may be damaged.
- (2) The lead pins of this product consist of silver-plating.
Do not operate under the conditions of freezing or dew formation. The use in such conditions may cause short circuits due to silver migration.
- (3) Please finish soldering within 7 days, or keep the products in the N₂-purged box after opening the package to prevent silver oxidation or damage to solderability.

SHARP

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- Consumer electronics

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