

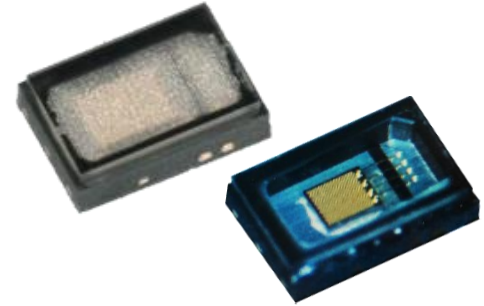


940nm Infrared VCSEL

RLD94SAQ8 Series

Datasheet

- Application
 - 3D Depth Sensor
 - TOF Sensor
 - IR Illumination
 - Etc.



- Merit
 - Optical output power 2W
 - MSL3 250°C peak reflow compatible
 - Thin Package t0.97mm(Diffuser type) , t0.77mm(Clear glass type)

• Absolute Maximum Ratings

Parameter	Symbol	Ratings	Unit
Continuous Forward Current	If (CW)	incompatible	A
Pulse Forward Current 100Hz Duty1% (on time 100μs)	If (Pulse)	10	A (Tc = 25°C)
Reverse Voltage	Vr	5	V (Tc = 25°C)
Junction temp.	Tj	110	°C
Solder reflow temp.	Tsr	250(10sec)	°C
Operating temp.	Top	-20 to 70	°C
Storage temp.	Tstg	-40 to 85	°C

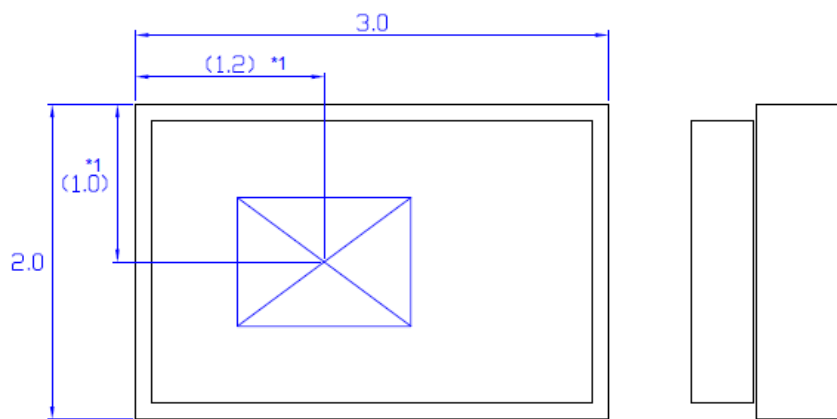
Condition : mounted on AL board with Heatsink

• Characteristics (Ta=25°C)

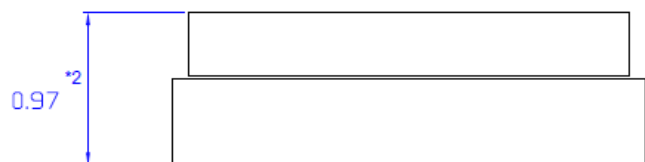
Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Threshold current	Ith	–	–	750	–	mA
Optical Power	Po	If=3A (tp=400μsec.)	1.4	2.0	–	W
Forward voltage	Vf	If=3A (tp=400μsec.)	–	2.0	2.5	V
Conversion efficiency	PCE	-	–	40	–	%
Slope efficiency	η	-	–	1.0	–	W/A
Peak Wavelength	λp	If=3A (tp=400μsec.)	930	940	950	nm
λ temp variation	Δλ/ΔT	-	–	0.07	–	nm/°C
ESD damage threshold	ESD HBM	Human Body Model	2000	–	–	V
Far Field Pattern	FFP	*please see page 4.				

Caution : The data above is used as reference only, i.e. not specification guarantee. Specifications and data are subject to change without notice.

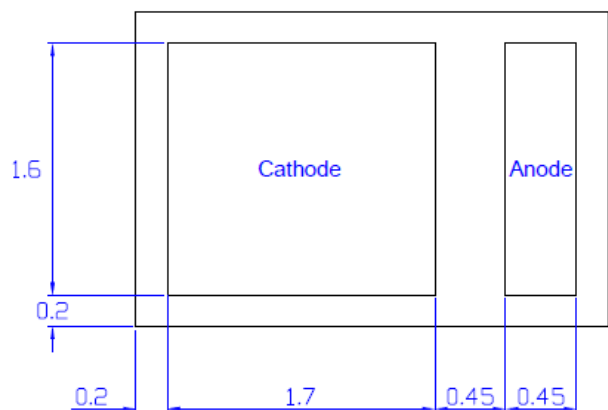
●Dimensions



*1 : Light Source Center



*2 : The height of the clear glass type is t0.77mm



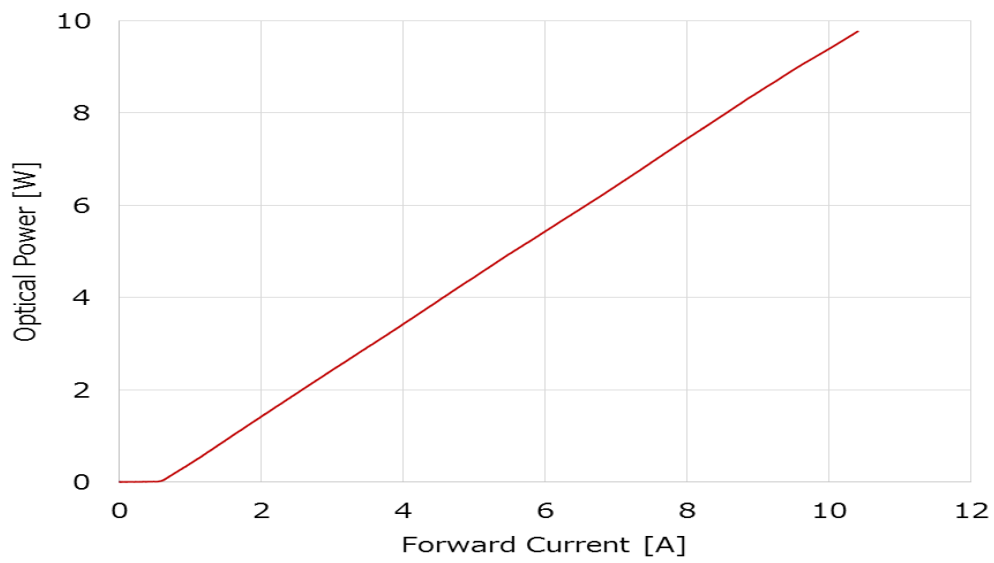
Unit : mm



Note

- Unspecified tolerance shall be $\pm 0.15\text{mm}$
- Dimensions do not include burrs
(Max burr size +0.25mm)

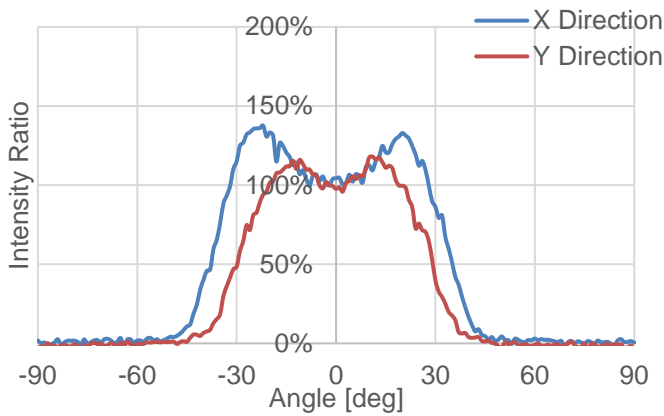
●Typical Electro-Optical Characteristics



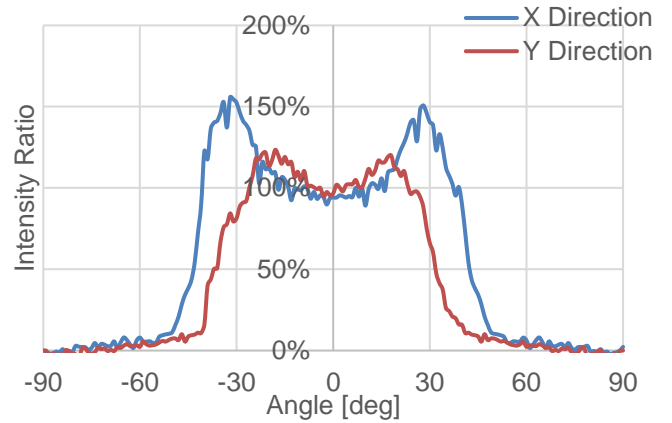
Condition : Pulse 100kHz Duty1% (on time 100nsec.) , Ta=25°C with Heatsink

●Far Field Pattern (Diffuser Type)

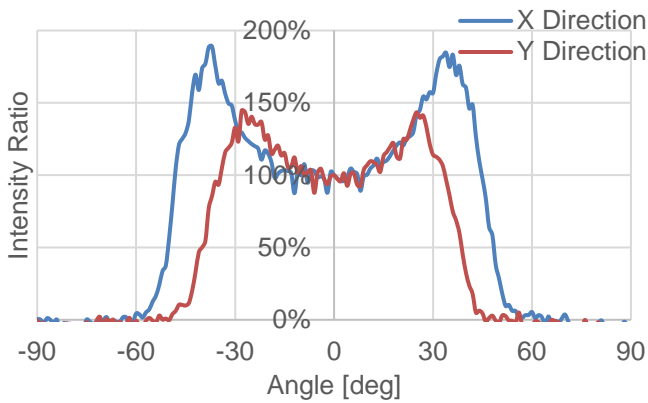
• 60×45deg Diffuser



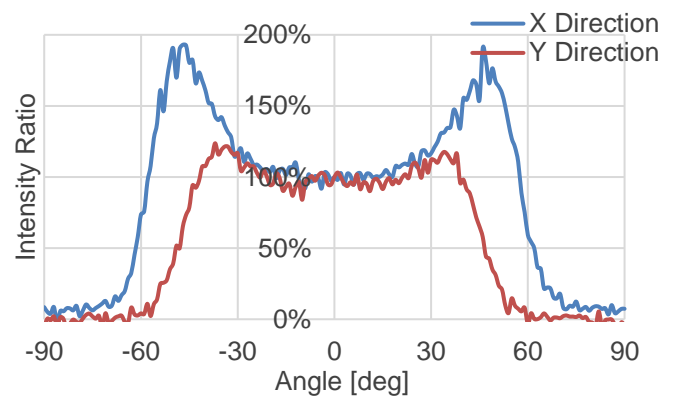
• 72×55deg Diffuser



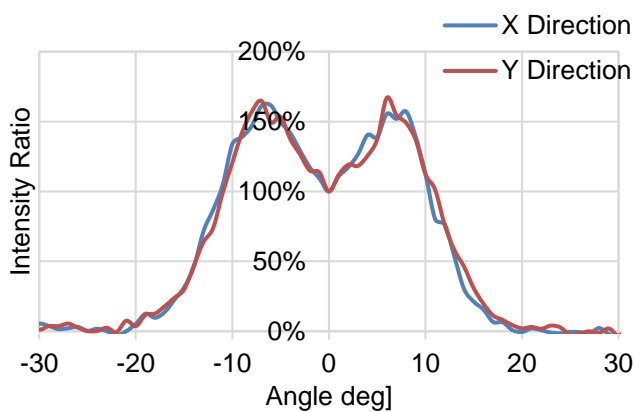
• 90×69deg Diffuser



• 110×85deg Diffuser



●Far Field Pattern (Clear Glass Type)



[Type List]

RLD94SAQ8-00A	Clear Glass
RLD94SAQ8-10A	60×45deg
RLD94SAQ8-20A	72×55deg
RLD94SAQ8-30A	90×69deg
RLD94SAQ8-40A	110×85deg
RLD94SAQ8-50A(TBD)	120×90deg(TBD)

[Condition]

- If=3A (Pulse 100Hz Duty1%(on time 100μsec.))
- Ta = 25°C

Notes

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