

DMS VCSEL Illuminator

AT02 Series



Features

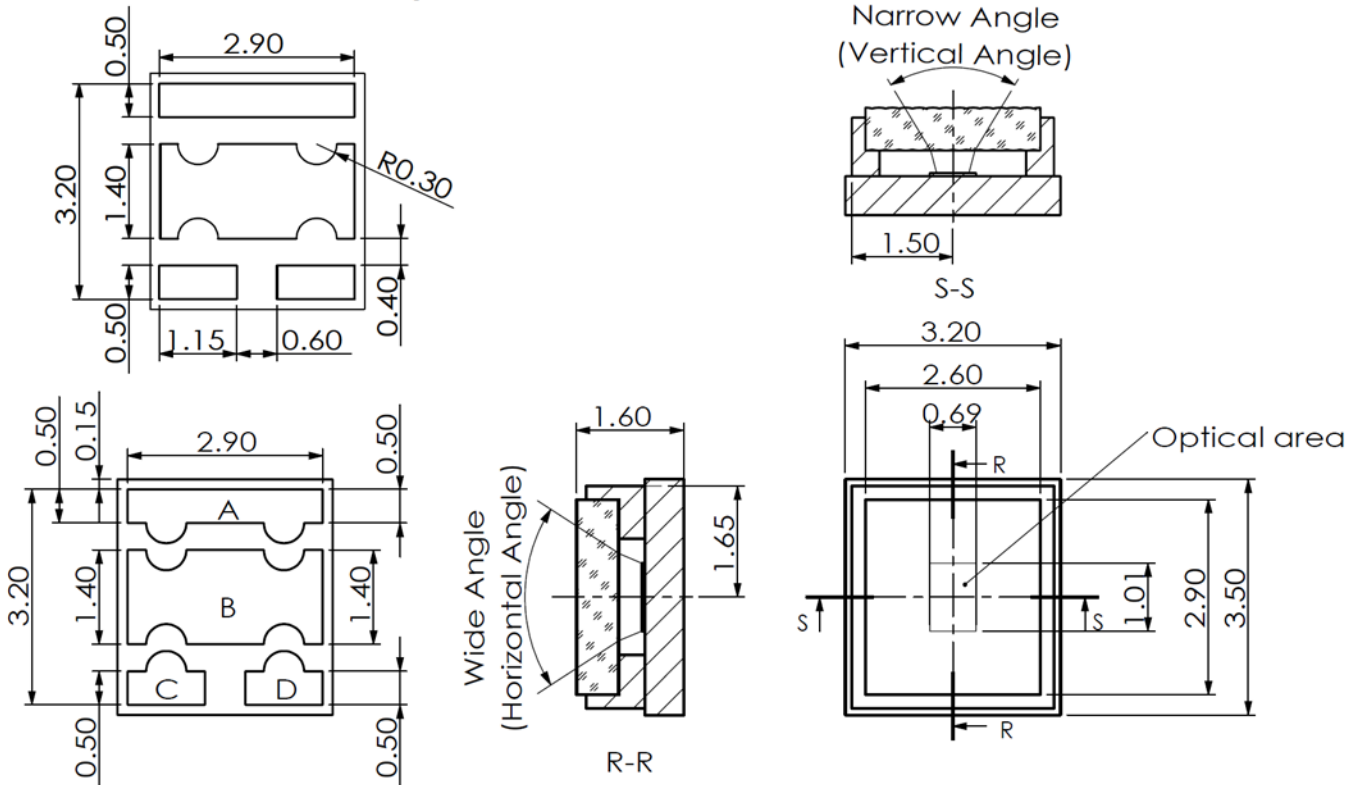
- Automotive grade glass diffuser
- Wide field of view up to 160°
- Standard package 3535

Applications

- Driver Monitoring System
- Face Recognition
- Lighting
- 3D Sensing

Product Dimensions (mm)

Recommended Soldering Pad :



A:VCSEL Anode
B:VCSEL Cathode
C:PD Anode
D:PD Cathode

NOTES	ECN	DWN	APPD	DATE	DESCRIP.
UNLESS OTHERWISE SPECIFIED					
DEC DIMENSIONS ARE IN mm & TOLERANCES ARE					
FOCUSLIGHT			TITLE		PAR

Remark: The structure drawing is for reference only. Please feel free to contact us for any special requirements.

Product Specifications (Prototype)

Product Code	(Typical Customizations)		
Part No. ¹	FL-AT02-5-940-HxV	FL-AT02-3-940-HxV	FL-AT02Pro-3-940-HxV
Test Condition	300μs, 300Hz, 9% DC, 25°C	300μs, 300Hz, 9% DC, 25°C	300μs, 300Hz, 9% DC, 25°C

Optical Data	Unit	Value		
Centroid Wavelength λ	nm	940	940	940
Output Power ²	W	>4	>2.5	>2.5
FOV @ FWHM (Typical, Horizontal x Vertical)	°	120 x 20 / 120 x 60 (Top Hat), 60 x 45 (Cos ⁻²)	120 x 20 / 120 x 60 (Top Hat), 60 x 45 (Cos ⁻²)	160 x 120 (Top Hat)
Spectral Width FWHM	nm	<3	<3	<3
Wavelength Temp. Coefficient	nm /°C	0.08	0.08	0.08

Electrical Data				
Threshold Current I_{th}	A	<0.7	<0.32	<0.7
Operating Current I_{op}	A	6	3.8	6
Forward voltage V_{op} ³	V	<2.5	<2.5	<2.5
Slope efficiency ³	W/A	>0.8	>0.8	>0.8
Power conversion efficiency	%	32%	32%	32%

PD Data				
PD Forward Voltage	V	0.5-1.3	0.5-1.3	0.5-1.3
PD Reverse Breakdown Voltage	V	35	35	35
PD Reverse Dark Current	nA	2-10	2-10	2-10
PD Junction Capacitance	pF	2-10	2-10	2-10
PD Peak Sensing Wavelength	nm	940	940	940

Other Data				
Operating Temperature	°C	-40~105	-40~105	-40~105

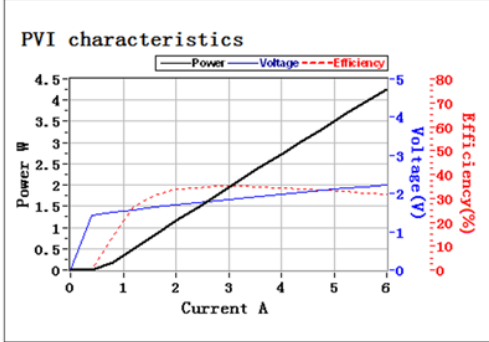
¹ Part No. = Brand Code - Series - Power - Centroid Wavelength - FOV (Horizontal x Vertical).

² A non-condensing environment is required for storage and operation below ambient dew point.



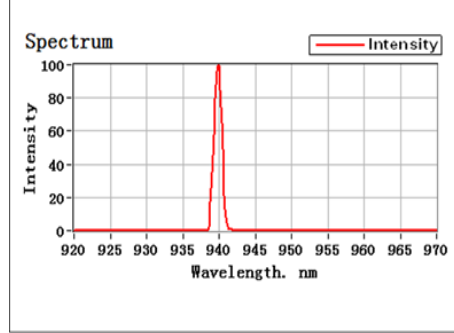
Product Test Results (Prototype)

L-I Test



Peak Pop(W)	4.25
Iop(A)	6.00
Ith(A)	0.58
Slope Eff.(W/A)	0.79
Average Pop(W)	0.38
Eff.@Iop(%)	31.77
V @Iop(V)	2.23
Temp.(°C)	25.00

Spectrum Test



Peak wavelength(nm)	939.96
Centroid wavelength(nm)	939.91
FWHM(nm)	1.35
FW90% Energy(nm)	1.93

