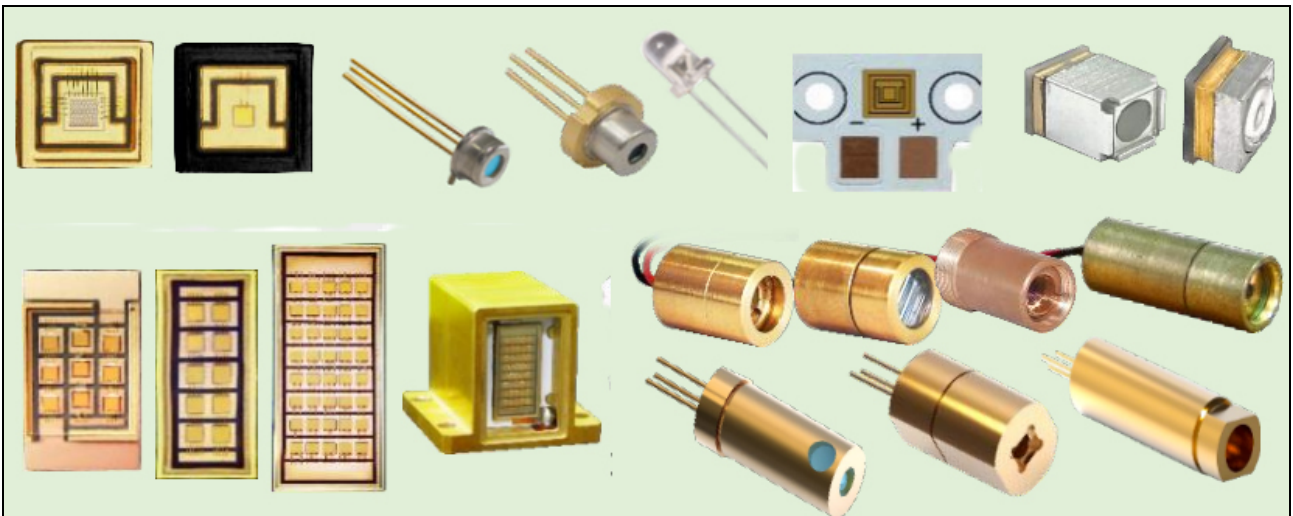
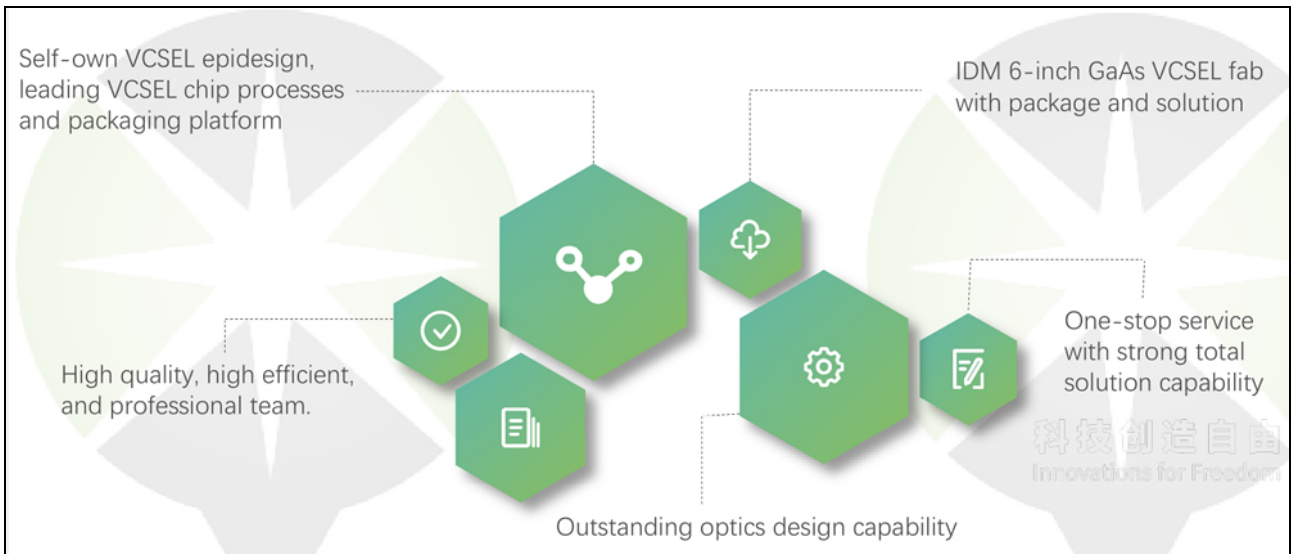


SXL Series VCSEL Laser Diodes



We are the competitive supplier in VCSELS & solutions, via providing the VCSELS & PDs and VCSEL based solutions for artificial intelligence (AI) and internet of things (IoT). We have all advanced equipment for advanced 6-inch GaAs VCSEL chip manufacture and package process line and testing line. We have 80+ various IP rights to cover epidesign, chip process, packaging and solutions and 30+ IP in application. Also we have the certificates such as ISO9001, IATF16949, RoHS, REACH, AEC-Q102, CE, IEC60825-1.

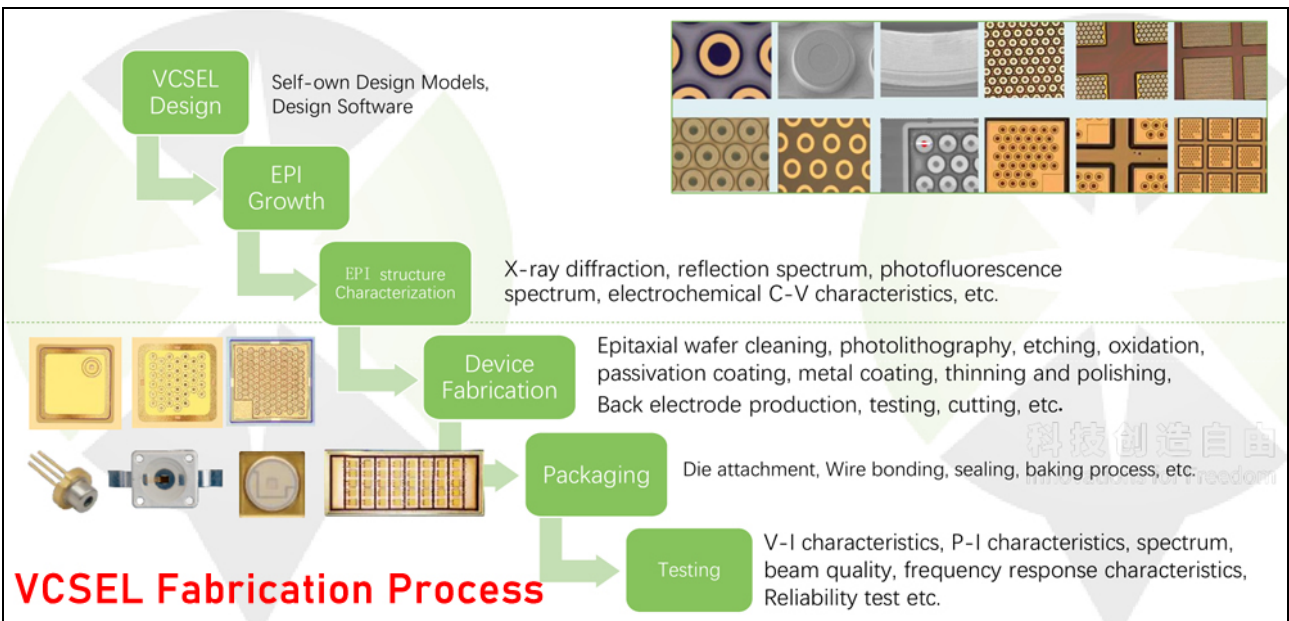
With implemented one-stop service from design, components, sensors, to total solutions. over 300 standard VCSEL-based products are provided. Customized products are also welcome.





Product Portfolio

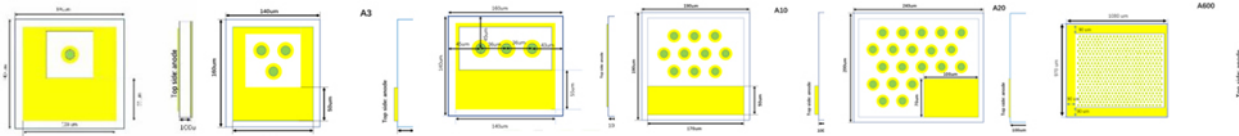
<p>VCSEL bare Die</p>	<p>PIN bare die</p>	<p>6G 10G 4x10G 25G 4x25G</p>	<p>TO46 TOSA/ROSA</p>
<p>2016 3535 7060</p>	<p>Moulded-lens VCSEL TO46 TO56</p>	<p>Dip plastic package T-mount</p>	<p>High power Array VCSEL Module</p>
<p>3D ToF VCSEL Diodes 4050</p>	<p>Pulsed VCSEL Diodes</p>	<p>Multi-VCSEL Diodes</p>	
<p>VCSEL high speed Photo sensors</p>	<p>2216 3030 3535</p>	<p>SMD VCSEL dot or line modules</p>	<p>Laser Modules</p>
	<p>Single and arrayed Photodiodes</p>		



1. VCSEL Chips

❖ Wavelength: 660nm/670nm/808nm/850nm/940nm/1060nm
 ❖ Power: several milliwatts to tens of Watts

VCSEL Chips



Single wavelength VCSEL array

High Efficiency (PCE), Low heat

Addressable, Custom design services

Features

01

02

03

04

05

06

Low optical power density, more safe

Wide operating temperature range -40~+105°C

High reliability, 50,000+ hours lifetime

科技创造自由
Innovations for Freedom






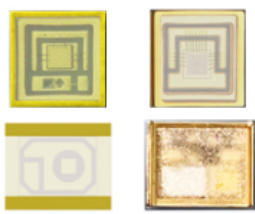
Features:




- Wide operating temperature range
- High reliability, 50,000h lifetime
- Low wavelength drift 0.07nm/°C
- High efficiency PCE 50%
- Low optical power density, safer
- Low heat, environment friendly
- Top hat beam profile




Part number	Wavelength	Optical power	Beam angle	Remark
SXL-LC-0808-B050-0025CC	808nm	50mW	24°	
SXL-LC-0808-B060-0025CC	808nm	60mW	25°	
SXL-LC-0808-B350-0025CA	808nm	350mW	25°	
SXL-LC-0808-B350-0030CA	808nm	350mW	30°	
SXL-LC-0808-C003-0025CA	808nm	3W	25°	
SXL-LC-0808-C006-0025CA	808nm	6W	25°	
SXL-LC-0808-C010-0025CA	808nm	10W	25°	
SXL-LC-0850-B008-0025CA	850nm	8mW	25°	
SXL-LC-0850-B010-0023CC-A	850nm	10mW	23°	
SXL-LC-0850-B010-0023CC-B	850nm	10mW	23°	
SXL-LC-0850-B010-0023CC	850nm	10mW	23°	
SXL-LC-0850-B015-0023CC	850nm	15mW	23°	
SXL-LC-0850-B060-0023CC	850nm	60mW	23°	
SXL-LC-0850-B130-0023CC	850nm	130mW	23°	
SXL-LC-0850-B200-0025CC	850nm	200mW	25°	
SXL-LC-0850-B400-0025CC	850nm	400mW	25°	
SXL-LC-0850-C001-0025CA	850nm	1W	25°	
SXL-LC-0850-C003-0025CA	850nm	3W	25°	
SXL-LC-0850-C004-0025CC	850nm	4W	25°	
SXL-LC-0850-B008-0025CA	850nm	8mW	25°	
SXL-LC-0940-B008-0020CC	940nm	8mW	20°	
SXL-LC-0940-B010-0020CC	940nm	10mW	20°	
SXL-LC-0940-B020-0025CC	940nm	18mW	25°	
SXL-LC-0940-B020-0025CP	940nm	20mW	25°	Dual-junction
SXL-LC-0940-B060-0020CC	940nm	60mW	20°	
SXL-LC-0940-B060-0120CC	940nm	60mW	20°	
SXL-LC-0940-B060-0025CP	940nm	60mW	25°	Dual-junction

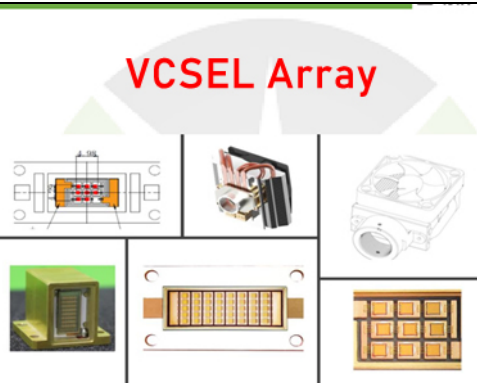
SXL-LC-0940-B060-0025CP-1x3	940nm	60mW	25°	Dual-junction
SXL-LC-0940-B160-0025CP	940nm	160mW	25°	Dual-junction
SXL-LC-0940-B160-0120CC	940nm	160mW	20°	
SXL-LC-0940-B200-0016CP	940nm	200mW	16°	
SXL-LC-0940-B200-0020CC	940nm	200mW	20°	
SXL-LC-0940-B200-0020CP	940nm	200mW	20°	
SXL-LC-0940-B300-0025CP	940nm	300mW	25°	
SXL-LC-0940-B400-0025CP	940nm	400mW	25°	
SXL-LC-0940-C001-0023CA	940nm	1W	23°	
SXL-LC-0940-C002-0020CA	940nm	2W	20°	
SXL-LC-0940-C004-0020CA	940nm	4W	20°	
SXL-LC-0940-C004-0025CP	940nm	4W	25°	

2. High-power VCSEL Diodes


Type	Characteristic of VCSEL Die				Package Forms	Applications		
	Wavelength	Power (CW) Peak Power (Pulse)	No. of Aperture	Beam Angle (° Degree)		Consumable Industrial Automotive		
Single Junction VCSEL 940nm	940nm± 10nm	10mW	1	20	2016AIN / TO56/ TO46	Industrial Control 		
		20mW	3	20	2016AIN / TO56/ TO46			
		60mW	10	20	2016AIN / TO56			
				160mW	20	20	2016AIN / TO56	Security Surveillances 
			1W	113	23	2016AIN/3535AIN		
			2W	306	23	3535AIN		
			4W	598	23	3535AIN/5050AIN /6868AIN/T-mount		
Dual Junction VCSEL 940nm (Pulse Mode)	940nm± 10nm	2W	1	25	2016AIN/TO56 Chip Array: 1X4/1X8/1X16	Facial Recognition 		
		6W	3	25	2016AIN/TO56 Chip Array: 1X4/1X8/1X16	Human-Computer Interaction 		
		25W	10	25	2016AIN/TO56 Chip Array: 1X4/1X8/1X16			
		50W	20	25	2016AIN/TO56 Chip Array: 1X4/1X8/1X16	ADAS 		
		100W	38	25	2016AIN/TO56 Chip Array: 1X4/1X8/1X16			
		400W	306	25	3535AIN Chip Array: (customizable)			
		Type & Application	Configuration (Arbitrary Chips)	Beam Angel (Horizontal × Vertical)		Package Forms	Standard & Customizable	
Auto-Grade VCSEL Diode								
Transceiver Flood Illuminator 3D ToF In-Cabin Sensor LiDAR	VCSEL Photodiode Diffuser	42°× 34 ° 50°× 40 ° 60°× 45 ° 72°× 58 ° 90°× 70 ° 110°× 85 ° 120°× 90 °		3532AIN 3535AIN 4050AIN				

Type	Wavelength	Characteristic of VCSEL Die			Package Forms	Applications Consumable Industrial Automotive
		Power / Peak Power	No. of Chips	Beam Angle (° Degree)		
High Power Assembly	660nm± 10nm 808nm± 10nm 850nm± 10nm 940nm± 10nm 1060nm± 10nm	6-15W	1 X 2 Chips	20-25	6868AIN/T-mount	Industrial Control 
		10-60W	2 X 2 Chips	20-25	1408AIN/T-mount / Heatsink Module	
		20-100W	2 X 4 Chips	20-25	0613AIN/T-mount/Heatsink Module	Medical Application 
		50-200W	4 X 6 Chips	20-25	2511AIN/T-mount/Heatsink Module	
		50-200W	5 X 5 Chips	20-25	2511AIN/T-mount/Heatsink Module	Security Surveillances 
		60-300W	5 X 8 Chips	20-25	2511AIN/T-mount/Heatsink Module	
		XX - 1000W	100-300 chips	20-25	Customizable Arbitrary Layout	






Type	Wavelength	Characteristic of VCSEL Die			Package Forms Single Chip / Chip Array	Applications Consumable Industrial Automotive
		Peak Power per Chip	No. of Aperture per Chip	Beam Angle (° Degree)		
High Power Assembly (Pulse Mode)	660nm± 10nm 808nm± 10nm 850nm± 10nm 940nm± 10nm 1060nm± 10nm	1-2W	1	20-25	Single Chip: 2016AIN/TO56 Chip Array: 1X4/1X8/1X16	Facial Recognition 
		3-6W	3	20-25		
		10-25W	10	20-25	Human-Computer Interaction 	
		20-50W	20	20-25		
		50-100W	38	20-25		
		100-400W	306	20-25	Single Chip: 3535AIN Chip Array: (customizable)	LIDAR 



VCSEL Array



High Power Assembly

Part number	Wavelength	Optical power	Beam angle	Remark
SXL-LD-0808-B015-0020CC-XXXX	808nm	15mW	20°	
SXL-LD-0808-B050-0025CC-XXXX	808nm	50mW	25°	
SXL-LD-0808-B060-0025CC-XXXX	808nm	60mW	25°	
SXL-LD-0808-B300-0025CA-XXXX	808nm	300mW	25°	Array
SXL-LD-0808-B600-0025CA-XXXX	808nm	600mW	25°	
SXL-LD-0808-C1D5-0025CA-XXXX	808nm	1.5W	25°	
SXL-LD-0808-C002-0025CA-0103-A0	808nm	2W	30°	
SXL-LD-0808-C003-0025CA-0103	808nm	3W	25°	
SXL-LD-0808-C004-0025CC-XXXX	808nm	4W	25°	
SXL-LD-0808-C005-0025CA-XXXX	808nm	5W	25°	
SXL-LD-0808-C007-0025CA-XXXX	808nm	6.8W	25°	
SXL-LD-0808-C008-0025CA-0614	808nm	4x2W	30°	
SXL-LD-0808-C010-0025CA-XXXX	808nm	10W	25°	
SXL-LD-0808-C020-0025CA-0611	808nm	20W	25°	
SXL-LD-0808-C020-0025CA-0611	808nm	20W	25°	
SXL-LD-0808-C030-0025CA-0611	808nm	30W	25°	
SXL-LD-0808-C035-0025CA-0132	808nm	35W	25°	
SXL-LD-0808-C040-0025CC-XXXX	808nm	40W	25°	
SXL-LD-0808-C060-0025CA-0611	808nm	60W	25°	
SXL-LD-0808-C060-0025CA-06XX	808nm	60W	25°	Array
SXL-LD-0808-C070-0025CC-0611	808nm	60W	25°	Array
SXL-LD-0808-C070-0025CC-XXXX	808nm	60W	25°	Array
SXL-LD-0808-C065-0025CA-0132	808nm	65W	25°	
SXL-LD-0808-C100-0025CC-XXXX	808nm	80W	25°	Array
SXL-LD-0808-C100-0025CA-0611	808nm	100W	25°	Array
SXL-LD-0808-C200-0025CA-XXXX	808nm	140W	25°	Array
SXL-LD-0808-C200-0025CA-0611	808nm	170W	25°	Array
SXL-LD-0808-C200-0025CA-0611	808nm	200W	25°	
SXL-LD-0808-C220-0025CA-0124	808nm	220W	25°	Array
SXL-LD-0808-C300-0025CA-XXXX	808nm	300W	25°	Array
SXL-LD-0850-B004-0023CA-2231	850nm	4mW	25°	
SXL-LD-0850-B005-0025CA-XXXX	850nm	5mW	25°	
SXL-LD-0850-B010-0023CC-XXXX	850nm	10mW	23°	
SXL-LD-0850-B015-0023CC-XXXX	850nm	15mW	23°	
SXL-LD-0850-B015-0025CCP-0317	850nm	15mW	25°	
SXL-LD-0850-B060-0023CC-XXXX	850nm	60mW	23°	
SXL-LD-0850-B100-0020CC-XXXX	850nm	100mW	24°	
SXL-LD-0850-B130-0024CA-XXXX	850nm	130mW	24°	

SXL-LD-0850-B200-0020CC-XXXX	850nm	200mW	20°	
SXL-LD-0850-B400-0024CC-XXXX	850nm	400mW	24°	
SXL-LD-0850-B700-0020CA-XXXX	850nm	700mW	20°	
SXL-LD-0850-C001-0020CA-XXXX	850nm	1W	20°	
SXL-LD-0850-C1D5-0020CA-0305	850nm	1.5W	20°	
SXL-LD-0850-C002-0020CA-XXXX	850nm	2W	24°	
SXL-LD-0850-C002-0020CA-XXXX	850nm	2.2W	24°	
SXL-LD-0850-C002-0025CA-0104	850nm	2.2W	24°	
SXL-LD-0850-C004-0020CA-XXXX	850nm	4W	24°	
SXL-LD-0850-C006-0025CA-XXXX	850nm	6W	25°	
SXL-LD-0850-C020-0025CA-XXXX	850nm	20W	25°	
SXL-LD-0850-C030-0025CA-XXXX	850nm	30W	25°	
SXL-LD-0850-C200-0025CA-XXXX	850nm	200W	25°	
SXL-LD-0940-B010-0020CC-XXXX	940nm	10mW	20°	
SXL-LD-0940-B015-00XXCCP-033X	940nm	15mW	15°	
SXL-LD-0940-B020-0020CC-XXXX	940nm	18mW	20°	
SXL-LD-0940-B020-0020CA-XXXX	940nm	20mW	20°	
SXL-LD-0940-B020-0025CP-XXXX	940nm	20mW	20°	
SXL-LD-0940-B060-0014CC-0235	940nm	60mW	14°	
SXL-LD-0940-B060-0014CC-1035	940nm	60mW	14°	
SXL-LD-0940-B060-0020CC-XXXX	940nm	60mW	20°	
SXL-LD-0940-B060-0025CP-XXXX	940nm	60mW	25°	
SXL-LD-0940-B070-00XXCCP-033X	940nm	70mW	15°	
SXL-LD-0940-B140-0010CCP-0331	940nm	140mW	10°	
SXL-LD-0940-B200-0020CC-XXXX	940nm	200mW	20°	
SXL-LD-0940-B200-0025CP-XXXX	940nm	200mW	20°	
SXL-LD-0940-B500-0020CC-XXXX	940nm	500mW	20°	
SXL-LD-0940-C001-0020CA-XXXX	940nm	1W	20°	
SXL-LD-0940-C002-0020CA-0103	940nm	2W	20°	
SXL-LD-0940-C002-0020CA-XXXX	940nm	2W	20°	
SXL-LD-0940-C004-0020CA-XXXX	940nm	4W	20°	
SXL-LD-0940-C015-0025CA-XXXX	940nm	15W	25°	
SXL-LD-0940-C100-0025CA-XXXX	940nm	100W	25°	

3. VCSELs for Lidar Applications

Features

- Low wavelength drift
- Oxide isolation technology
- Low threshold current
- High reliability
- Easy to collimate

Applications

- 3D sensors
- Lidars
- IR illuminations
- Medical applications
- Proximity sensors

Part number	Wavelength	Optical power	Beam angle	Remark
SXL-LD-0808-C200-0025CAP-XXXX	808nm	150W	25°	Pulsed
SXL-LD-0808-C300-0025CAP-XXXX	808nm	192W	25°	Pulsed
SXL-LD-0850-B200-XXXXRC-0103	850nm	200mW	20°	D ToF with diffuser
SXL-LD-0850-B200-XXXXRC-0103	850nm	200mW	60° x 45° / 72° x 58° / 90° x 70° / 110° x 85° / 120° x 90°	3D TOF with diffuser
SXL-LD-0850-B700-XXXXRC-0103	850nm	700mW	60° x 45° / 72° x 58° / 90° x 70° / 110° x 85° / 120° x 90°	3D TOF with diffuser
SXL-LD-0850-B700-XXXXRA-0103	850nm	700mW	20°	D ToF with diffuser

SXL-LD-0940-C004-XXXXRA-0103	850nm	4W		With diffuser
SXL-LD-0850-C004-XXXXRA-0103	850nm	4W	60° x 45° / 72° x 58° / 90° x 70° / 110° x 85° / 120° x 90°	3D TOF with diffuser
SXL-LD-0850-C020-0020CAP-XXXX	850nm	20W	20°	Pulsed
SXL-LD-0850-C050-0020CAP-XXXX	850nm	50W	20°	Pulsed
SXL-LD-0940-C050-0025CPP-XXXX	850nm	50W	25°	Pulsed
SXL-LD-0940-B200-XXXXRC-0103	940nm	200mW	20°	3D ToF
SXL-LD-0940-B200-XXXXRC-0103	940nm	200mW	60° x 45° / 72° x 58° / 90° x 70° / 110° x 85° / 120° x 90°	3D TOF with diffuser
SXL-LD-0940-B500-XXXXRC-0103	940nm	500mW	60° x 45° / 72° x 58° / 90° x 70° / 110° x 85° / 120° x 90°	3D TOF with diffuser
SXL-LD-0940-B600-XXXXRC-0103	940nm	600mW	20°	3D ToF
SXL-LP-000E-C002-XXXXSA-0103	940nm	2W	20°	with diffuser & PD
SXL-LD-0940-C002-XXXXRA-0103	940nm	2W	20°	with diffuser
SXL-LD-0940-C002-XXXXRA-0103	940nm	2W	60° x 45° / 72° x 58° / 90° x 70° / 110° x 85° / 120° x 90°	3D TOF with diffuser
SXL-LP-000E-C004-XXXXSA-0103	940nm	4W	20°	with diffuser & PD
SXL-LD-0940-C004-XXXXRA-0103	940nm	4W	20°	with diffuser
SXL-LD-0940-C004-XXXXRA-0103	940nm	4W	60° x 45° / 72° x 58° / 90° x 70° / 110° x 85° / 120° x 90°	3D TOF with diffuser
SXL-LD-0940-C006-0025CPP-XXXX	940nm	6.5W	25°	Pulsed
SXL-LD-0940-C010-0020CBP-XXXX	940nm	10W	20°	Pulsed
SXL-LD-0940-C025-0025CPP-XXXX	940nm	22W	25°	Pulsed
SXL-LD-0940-C025-0025CPP-XXXX	940nm	25W	25°	Pulsed
SXL-LD-0940-C050-0025CPP-XXXX	940nm	50W	25°	Pulsed
SXL-LD-0940-C100-0025CPP-XXXX	940nm	100W	25°	Pulsed
SXL-LD-0940-C400-XXXXRA-0103	940nm	400W	25°	Pulsed with diffuser
SXL-LD-0940-C400-0025CPP-XXXX	940nm	400W	25°	Pulsed

4. VCSEL Dot and Line Modules

Features <ul style="list-style-type: none"> Uniform and detail-oriented, no stripe & no noise. Compact and small size. 			Applications <ul style="list-style-type: none"> 3D measurement, indication and positioning. Sweeping robot. 		
50mW 808nm Line Laser Module (VM-0808F-050M-GL-0A0)			30mW 940nm Dot Laser Module (VM-0940G-030M-AD-0A0)		
Parameters	Typical values	Remarks	Parameters	Typical values	Application
Linewidth	≤ 2mm	@10cm	Optical power	30mW	300-500m Laser curtain Railway station shield door
Divergence	≥ 130°	-	Divergence	1.5±0.5 mrad	

VCSEL Dot & Line Classical Modules



Distance at 30cm

Remarks: We provide Line and Dot laser module in variety of wavelength, power levels and dimensions.

Features

- Uniform and detail-oriented, no stripe & no noise.
- SMD

Applications

- 3D measurement, indication and positioning.
- Sweeping robot.

**5-20mW 808/850/940nm line VCSEL Module
(VM-0XXXXF-0XXM-GL-0A0)**

Parameters	Typical values	Remarks
Linewidth	≤ 2mm	@10cm
Divergence	110°	-


**5-20mW 808/850/940nm Dot Module
(VM-0XXXG-0XXM-AD-0A0)**

Parameters	Typical values	Application
Optical power	30mW	sensing
Divergence	3-5 mrad	



VCSEL Dot & Line Modern Modules



Distance at 30cm

Remarks: We provide Line and Dot laser module in variety of wavelength, power levels and dimensions.

Part number	Wavelength (nm)	Optical power (mW)	Spot shape	Illumination distance (m)	Dimension (mm)
SXL-LM-0850-B006-0913LA	850	6	Line		φ9 × L13.0
SXL-LM-0650-B001-0917LA	650	0.7	Line		φ9 × L17.0
SXL-LM-0940-B080-1059LA	940	80	Line		φ9 × L10.5
SXL-LM-0940-B060-0911LA	940	60	Line		φ9 × L11
SXL-LM-0405-B005-0614LA	405	5	Line		Φ6 × L13.7
SXL-LM-0405-B005-0714LA	405	5	Line		Φ7 × L13.7
SXL-LM-0808-B050-0607LA	808	50	Line		L6.5×φ6
SXL-LM-0850-B025-0911LA	850	25	Line		φ9×L11
SXL-LM-0940-B015-0913LA	940	15	Line		φ9×L13.0
SXL-LM-0940-B030-0913LA	940	30	Line		φ9 × L13.0
SXL-LM-0808-B050-0811LA-0120	808	50	Line		Φ8×L11
SXL-LM-0635-B001-1322LC	635	0.95	Line		L22×φ13
SXL-LM-0450-B002-5057LA	450	2mW	Line	10	L50×W50×H57
SXL-LM-0650-B001-0917LA	650	1mW	Line	>0.156	L17.0 × φ 9
SXL-LM-0850-B006-0913LA	850	6mW	Line	0.5-1	L13.0 × Φ 9
SXL-LM-0940-B018-2046LP	940	18mW	Line	/	Φ20x45.5
SXL-LM-0940-B020-0913LA	940	15mW	Line	>0.3	L13.0 × φ9
SXL-LM-0940-B060-0913LA	940	30mW	Line	>0.3	L13.0 × φ9
SXL-LM-0940-B080-0911LA	940	80mW	Line	>0.3	L10.5 × Φ 9
SXL-LM-0940-B100-0911LA	940	100mW	Line	>0.3	L10.5 × Φ9
SXL-LM-0656-B030-1512DA	656	30	Dot		L15.0 × φ12.0
SXL-LM-0940-B004-0711DC	940	4	Dot		Φ6.5x10.5
SXL-LM-0650-B003-1120DA	650	3	Dot		M11.5(φ10.5)×L19.3
SXL-LM-0650-B003-1120DC	650	3	Dot		M11.5(φ10.5)×L19.3
SXL-LM-0650-B004-1120DA	650	4	Dot		M11.5(φ10.5)×L19.3
SXL-LM-0940-B030-2432DA	940	30	Dot		Φ24x32
SXL-LM-0520-B004-1120DC	520	4	Dot		M11.5(φ10.5)×L19.3
SXL-LM-0520-B004-1120DA	520	4	Dot		M11.5(φ10.5)×L19.3
SXL-LM-0650-B003-0711DC	650	3	Dot		L10.5×φ6.5
SXL-LM-0850-B006-0722DA	850	3	Dot		φ6.5*L22
SXL-LM-0850-B004-0711DC	850	4	Dot		Φ6.5x10.5
SXL-LM-0450-B026-1120DA	450	26mW	Dot	500	M11.5(φ10.5)×L19.3
SXL-LM-0520-B004-1120DA	520	4mW	Dot	500	M11.5(φ10.5)×L19.3
SXL-LM-0650-B001-0818DB	650	1mW	Dot	/	L18.0 × φ8
SXL-LM-0650-B003-1120DA	650	3mW	Dot	500	M11.5(φ10.5)×L19.3
SXL-LM-0850-B006-0722DA	850	3mW	Dot	6	L22 × Φ6.5

SXL-LM-0850-B006-0919DA	850	2mW	Dot	20	L19 × Φ 9
SXL-LM-0850-B200-0913DA	850	200mW	Dot	0.5-1	L12.5 × Φ 9
SXL-LM-0940-B060-0919DA	940	30mW	Dot	20	L19 × Φ9
SXL-LM-0940-B004-0711DC	940	4	Dot	0.25	Φ6.5x10.5
SXL-LM-0850-A200-1010DA	850	0.2	Dot	>0.2	Φ10×L10