

DataSheet(Preliminary) VCSEL array 940nm 3W

PN: HEV9403W
Rev. prediction
SEP. 2024

Product features:

Wavelength: 940nm
Optical power: 3W
Slope efficiency: 1W/A

Applications:

Sensor
Industrial

Revision History			
Rev.	Effective Date	Revised By.	The Main Contents Revised.
A00	2024.09.11	potato	Initial version released

Data sheet PN: HEV9403W
940nm 3W VCSEL array



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BestLaser Opto Component Device Limited

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Electro-optical characteristics (50°C)

Parameters	Symbol	Min	Typical	Max	Units	Test Condition
Optical Output Power	POP	2.8	3	-	W	QCW 3.5A 50°C
Threshold Current	I_{th}	0.3	0.5	0.7	A	QCW 50°C
Operating Current	I_{op}	-	3.5	-	A	QCW 50°C
Differential resistance	R_s	-	0.2	-	Ω	QCW 3.5A 50°C
Operating Voltage	V_{op}	1.5	1.8	2.1	V	QCW 3.5A 50°C
Slope Efficiency	η_s	0.8	1	-	W/A	QCW 3.5A 50°C
Power Conversion Efficiency	PCE	42	47	-	%	QCW 3.5A 50°C
Wavelength	λ_{peak}	932	940	948	nm	QCW 3.5A 50°C
Beam Full Divergence (D86*)	ϕ	18	21	24	°	QCW 3.5A 50°C
Spectral Width (RMS)	$\Delta\lambda$	-	2	2.5	nm	QCW 3.5A 50°C
Wavelength coefficient	$d\lambda/dT$	-	0.059	0.073	nm/°C	QCW

* All tests are under QCW condition with heatsink temperature 50°C.



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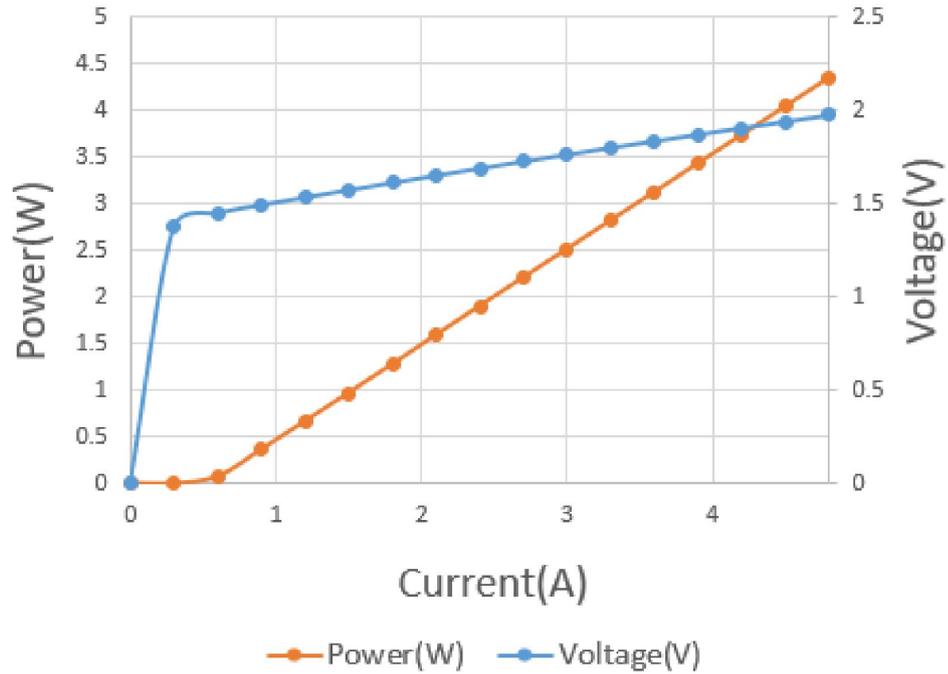
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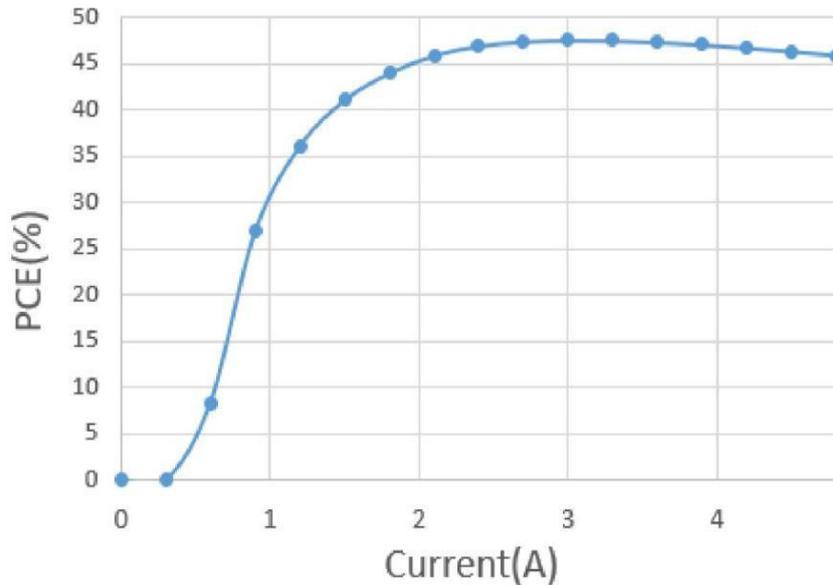
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Typical Performance Curves



PCE@50°C



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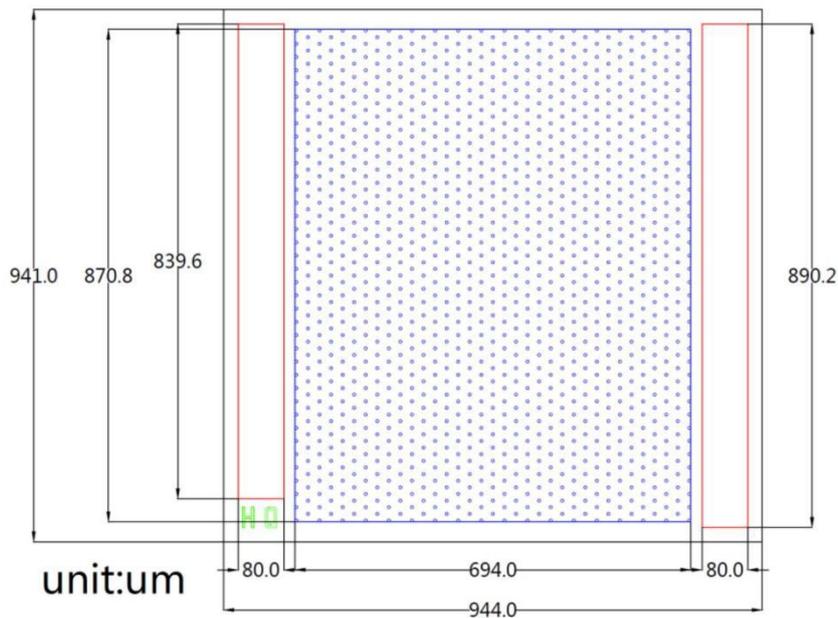
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Product appearance mechanical characteristics

Parameter	Ratings	Units
Number of emitters	1313	#
Chip Width	944	μm
Chip Length	941	μm
Anode Contact	Emission side, Au surface	/
Die Thickness	100±15	μm
Cathode Contact	Backside, Au surface	/



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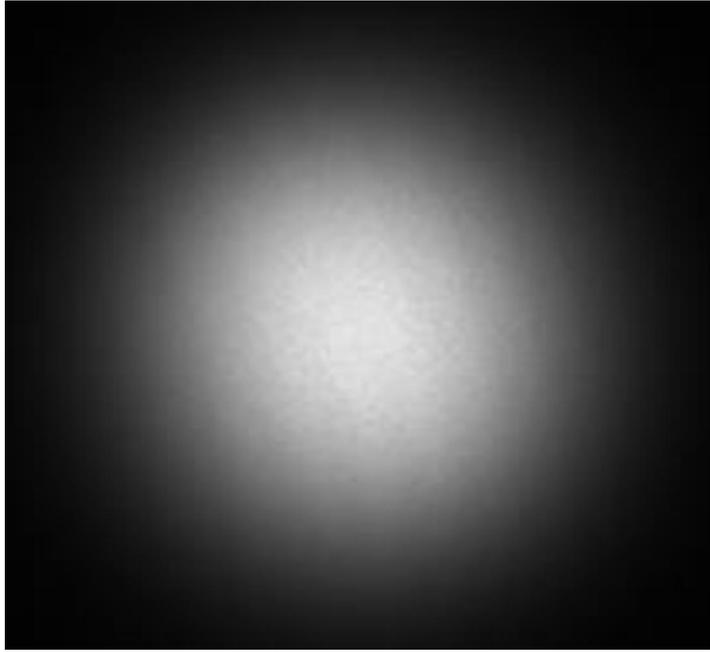
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Far Field profile



Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Units
Operating temperature	Top	-25	85	°C
Operating humidity	Hop	0	85	%
Storage temperature	Ts	-40	110	°C
Storage humidity	Hs	0	85	%



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Shipping Instruction

The small volume early samples may package in 6,, ring or Gel-boxes.

Laser Safety

Laser light emitted from this device is invisible and may be harmful to the human eye. Avoid directly viewing the laser beam or exposure to specular reflections. Proper eye-wear must be worn at all times when operating.

RoHS And REACH Compliance

Our company is fully committed to environment protection, human health and sustainable development and has set in place a comprehensive program for removing polluting and hazardous substances from all of its products.



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