

5mW 940nm VCSELs

RS0940-001PA-S

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1. Specifications



Chip Size: 0.15x0.15x0.15(t) mm³

Electrical and optical characteristics

(T = 25°C unless otherwise stated)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Output Power	P_o		5		mW	
Threshold current	I_{th}	0.8	1.2	1.6	mA	
Operating voltage	V_o	1.8	2.1	2.4	V	P_o
Series resistance	R_s		70	90	Ω	P_o
Operating current	I_o	5	7	9	mA	P_o
Wavelength	λ	930	940	950	nm	P_o
Spectral width	$\Delta\lambda$		2.0		nm	P_o , FWHM
Slope efficiency	η_d	0.8	0.9	1.0	W/A	
Peak temperature dependence	$\Delta\lambda/\Delta T$		0.07		nm/°C	T = 0 to 85°C

Absolute maximum ratings

(T = 25°C unless otherwise stated)

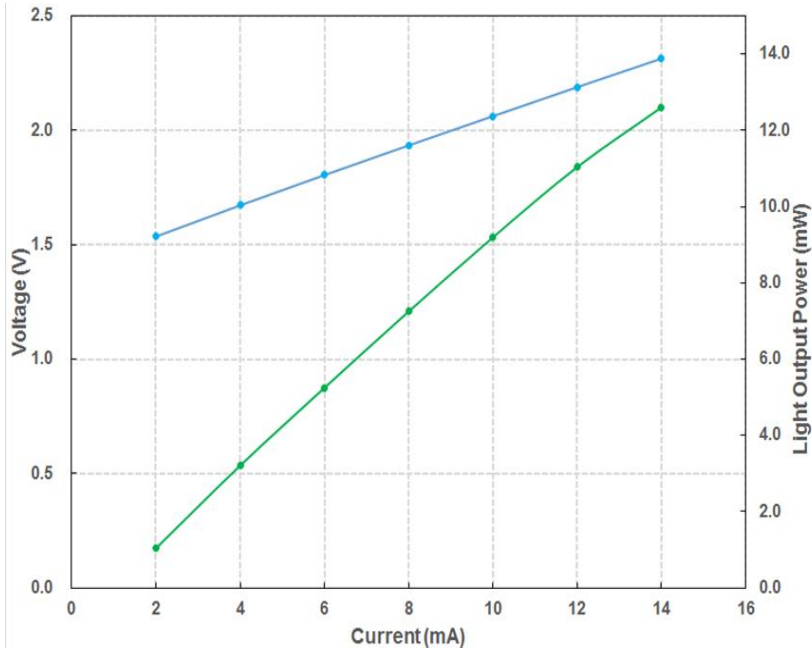
Parameter	Symbol	Rating	Unit	Notes
Forward current	I_f	20	mA	Max. 10 sec
Reverse voltage	V_r	2	V	
Operating temperature	T_{op}	0 ~ 85	°C	
Storage temperature	T_{stg}	-40 ~ 85	°C	
Reflow temperature	T_{ref}	260	°C	Max. 10 sec. 2 mm from case

Notice

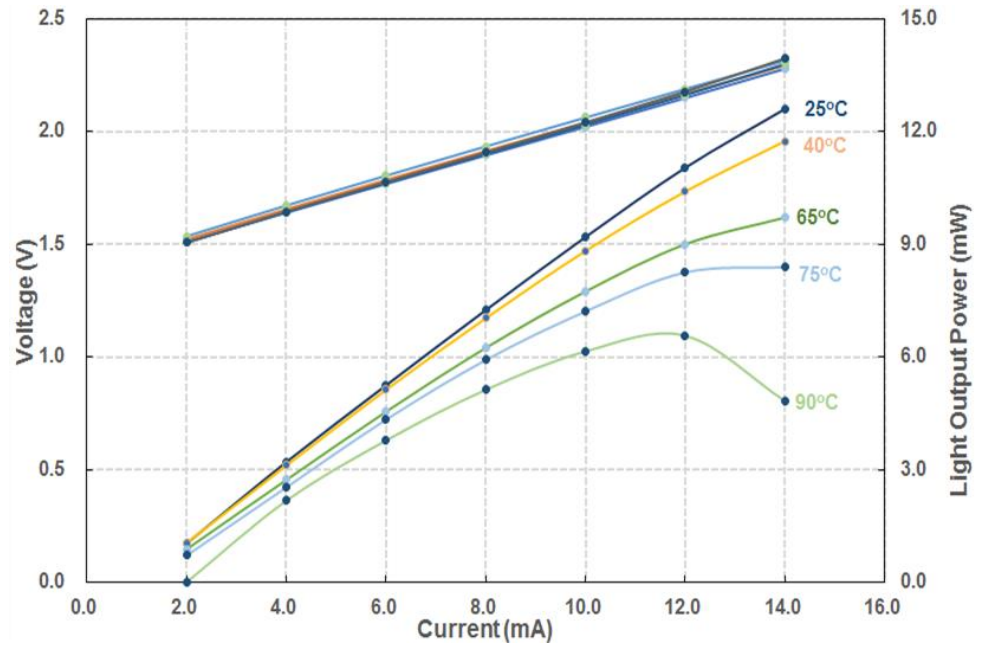
Conditions exceeding those listed may cause permanent damage to the device. Devices subjected to conditions beyond the limits specified for extended periods of time may adversely affect reliability.

2. L-I-V

L-I-V at 25°C

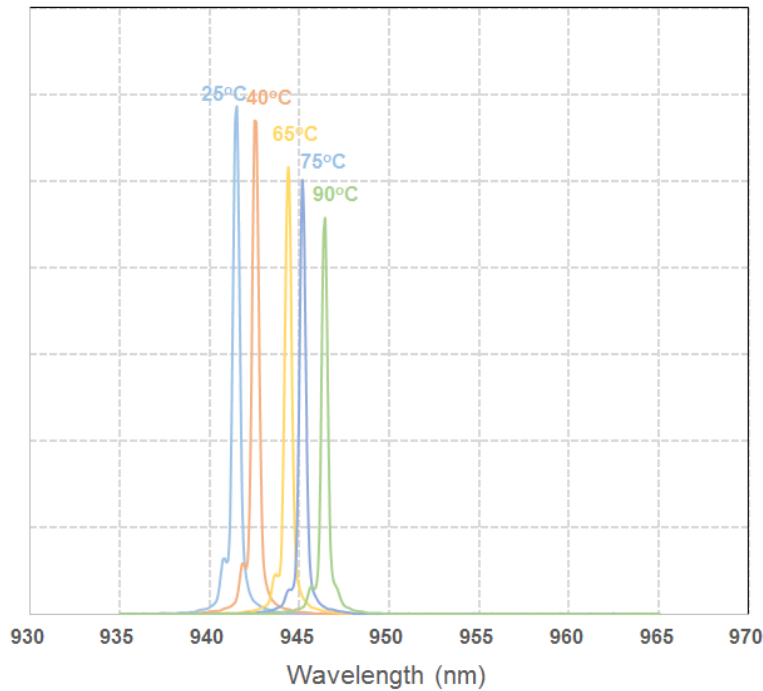


L-I-V-T

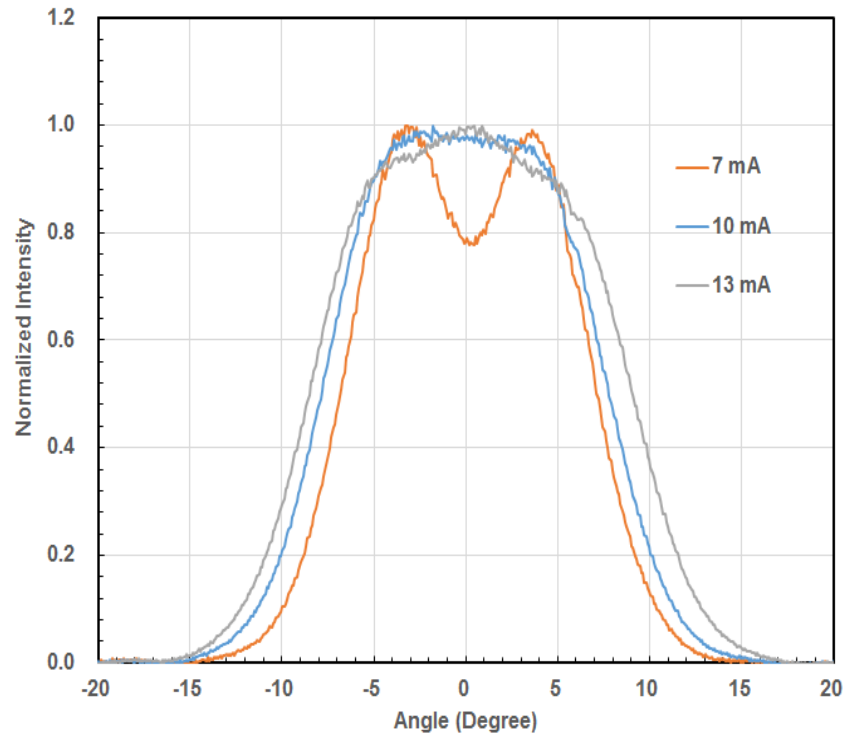


3. Spectra & Far-field profile

Spectra at I = 8mA

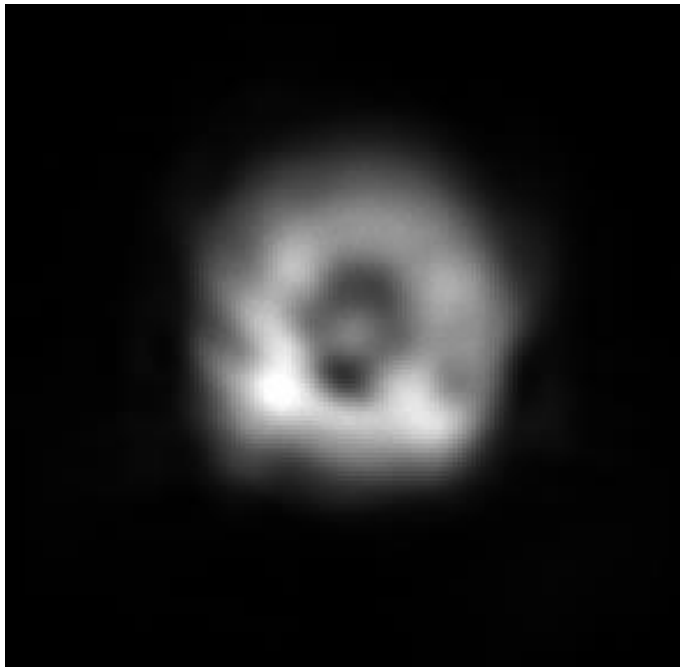


Far-field profile

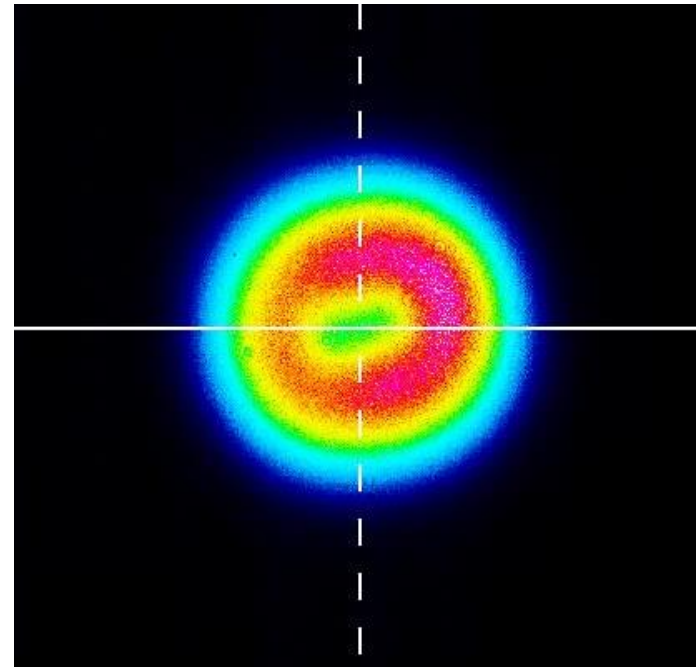


4. Near-field & Far-field picture

Near-field picture

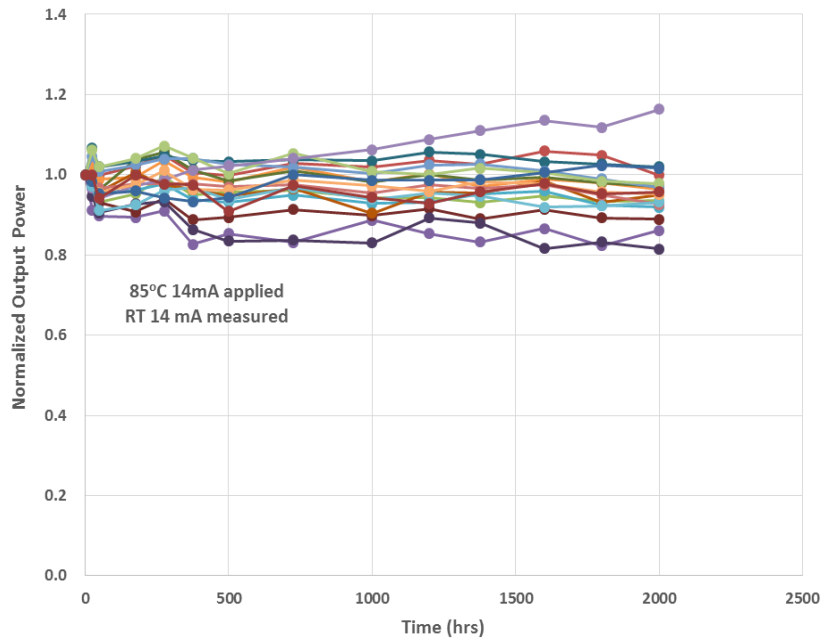


Far-field picture

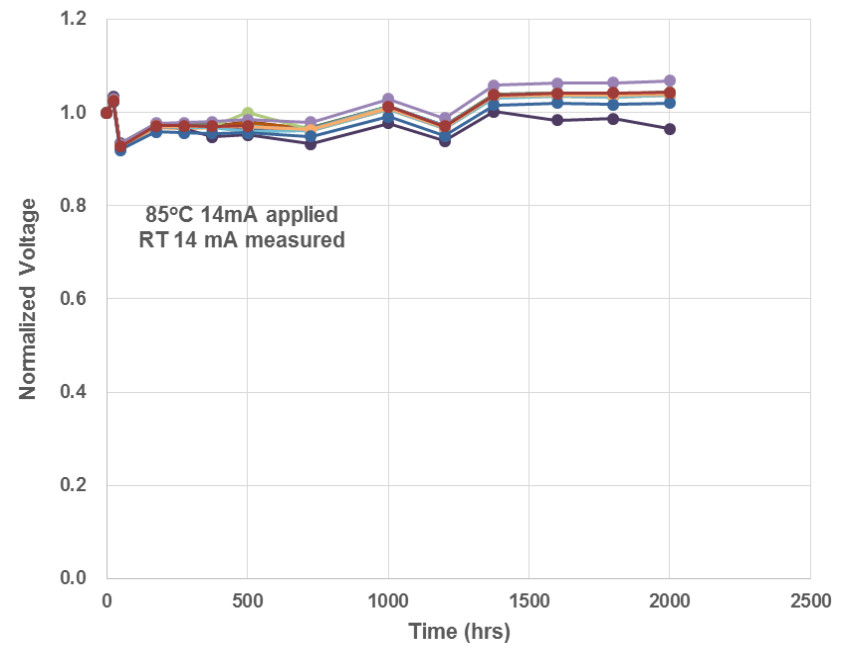


5. Endurance test

Light Output Power



Voltage





THANK YOU!

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