

# 850nm High Power Single Emitter VCSEL Chip

## Specification

### Features

- Low power consumption
- Single emitter configuration
- Excellent reliability
- Circular beam profile

### Ordering Information

Part Number	Description
APA6001010002	850nm High Power SE VCSEL Chip

### Electro-Optical Characteristics

Temperature: T=25°C, unless otherwise noted

PARAMETERS	SYMBOL CONDITIONS	MIN	TYP	MAX	UNIT	CONDITION
Threshold Current	$I_{th}$		2.5		mA	
Slope Efficiency	$\eta$		0.9		mW/mA	$I = I_{th} + 1\text{mA}$
Operating Current	$I_{op}$	10	13	16	mA	$P_{op} = 10\text{mW}$
Operating Voltage	$U_{op}$		2.2	2.5	V	$I = I_{op}$
Differential Resistance	$R_d$	30	45	60	$\Omega$	$I = I_{op}$
Center Wavelength	$\lambda_{center}$	840	850	865	nm	$I = I_{op}$
Beam Divergence <sup>1</sup>	$\theta_{FW1/e2}$	21	27	33	deg	$I = I_{op}$
Optical Output Power 50°C	$P_{50C}$	8	9	10.5	mW	$I = I_{op}, T = 50^\circ\text{C}$
Rise Time / Fall Time	$t_{rise} / t_{fall}$		100	500	ps	10% to 90%

<sup>1</sup>FW1/e2 = full width 1/e2

### Absolute Maximum Ratings

PARAMETERS	MIN	MAX	UNIT	CONDITION
Continuous Operating Current		16	mA	
Continuous Reverse Voltage		5	V	
PCB solder or reflow temperature		260	°C	Max 10 seconds

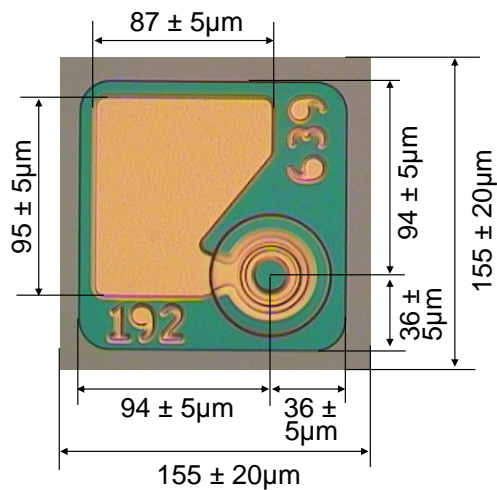
### Environmental Exposure Ratings

PARAMETERS	MIN	MAX	UNIT	CONDITION
Operating Temperature	5	50	°C	
Storage & Transport Temperature	-40	100	°C	

### Packaging and Supply

- Sawn wafer on adhesive tape
- Wafer map files describing positions of good dice

### Chip Dimensions



Chip thickness: 150 ± 15 μm