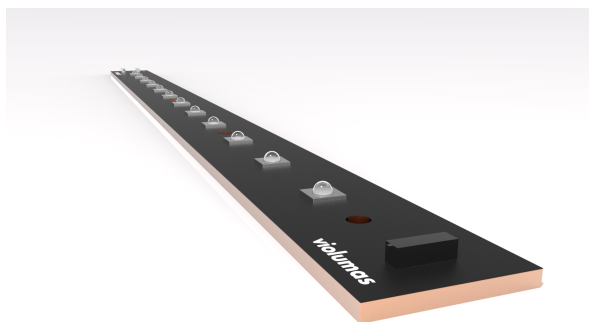
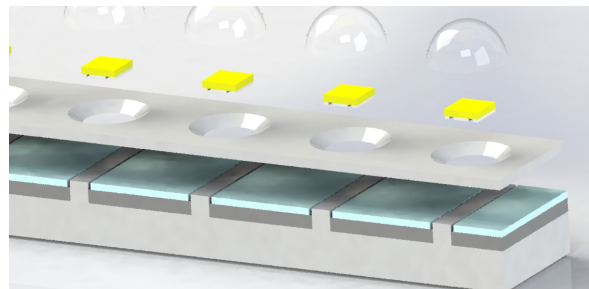


## VC12X1C45/50 UV Light Bar COB

**VC12X1C45/50** is UV LED Light Bar COB with 12 chips bonded in a linear structure. Each chip is structured based on a flip chip structure and unique low temperature bonding technologies to further boost lighting efficiency and decrease the thermal resistance.

### Characteristics

- Module Dimensions: 304mm x 20mm
- LED Number: 12
- Radiant Angle with Lens: 60°
- Thermal Resistance: 0.11°C/W
- Full Width Half Magnitude: 12nm



### Electro-Optical Characteristics at T=25°C

Part Number	Wavelength	Typ. Output	Typ. Forward Voltage	Power Consumption	Test Condition
VCL-C12L6-405	405nm	12W	43.5V	30.5W	I <sub>F</sub> = 700mA
VCL-C12L6-395	395nm	13W	43.5V	30.2W	I <sub>F</sub> = 700mA
VCL-C12L6-385	385nm	12W	43.5V	30.2W	I <sub>F</sub> = 700mA
VCL-C12L6-375	375nm	9W	43.5V	30.2W	I <sub>F</sub> = 700mA
VCL-C12L6-365	365nm	6W	46.8V	30.8W	I <sub>F</sub> = 700mA
VCL-C12L6-310	310nm	1W	36.1V	50.2W	I <sub>F</sub> = 1400mA
VCL-C12L6-280	280nm	1W	36.6V	51.2W	I <sub>F</sub> = 1400mA
VCL-C12L6-265	265nm	0.8W	43.9V	52.4W	I <sub>F</sub> = 1200mA

### Absolute Maximum Ratings for UVA (405nm, 395nm, 385nm, 375nm, 365nm)

Parameter	Symbol	Unit	Value
Forward Current	$I_F$	mA	1000
Reverse Voltage	$V_R$	V	5
Power	$P_O$	W	48.0
Junction Temperature	$T_J$	°C	115
Operating Temperature	$T_{OPR}$	°C	-30 ~ 80
Storage Temperature	$T_{STG}$	°C	-40 ~ 100

### Absolute Maximum Ratings for UVB/UVC (310nm, 280nm, 265nm)

Parameter	Symbol	Unit	310/280nm	265nm
Forward Current	$I_F$	mA	2000	1600
Reverse Voltage	$V_R$	V	5	5
Power	$P_O$	W	81.6	72
Junction Temperature	$T_J$	°C	115	115
Operating Temperature	$T_{OPR}$	°C	-30 ~ 80	-30 ~ 80
Storage Temperature	$T_{STG}$	°C	-40 ~ 100	-40 ~ 100

### Reliability

Test	Condition	Test Duration	Test Failed/Tested
Thermal Shock	-45°C ~ 125°C	200 Cycles	0/10
LT70 Lifespan	$I_F=350mA$ , $T=25°C$	1000 Hours	0/10

### Handling & Usage Precautions

- Exhibit extreme care when handling LEDs. Do not touch the LED with bare hands as doing so may contaminate and affect the optical characteristics of the LED. When using tweezers, do not apply excessive force, especially to the glass lens. Do not drop the LED as doing so may cause product damage.
- Ensure that electrostatic discharge specifications are followed. Static electricity and surge voltages may cause product damage. Proper electrostatic discharge protection equipment, working machinery, and protected mounting equipment are recommended.
- Do not expose the LEDs to volatile organic compounds as well as hazardous, acidic, and corrosive substances during storage and operation to avoid product damage.
- Do not apply excess mechanical force and vibration while handling the product.
- Do not expose the product to sudden changes in temperature, high humidity levels, and condensation.
- Ensure that the PCB is suitable for the product and be wary of LED placement and possible PCB warpage.

## Storage Precautions

- Perform soldering as soon as the moisture-proof packaging is opened.
- After the storage duration has exceeded the recommended time, products may need to be baked before soldering.
- Store all products in a controlled environment under 30° C free of dust. Do not expose the product to sudden changes in temperature, high humidity levels, and condensation.
- Please consult the Violumas engineering team for further information on storage precautions.

## Eye Safety Precautions

- Avoid exposure to UV light during LED operation. Do not look directly into the UV light during LED operation. Do not look directly into the UV light during optical measurements even through optical instruments. Protect the body, skin, and eyes with UV protective equipment.
- Attach warning labels on all products and systems that use UV LEDs.

## Cleaning Precautions

- Do not use brushes or organic solvents for cleaning the LEDs.
- Perform electrical and optical measurements before and after cleaning to ensure optimal performance.

## Static Electricity Precautions

- Ensure that equipment and machinery are properly grounded.
- Anti-electrostatic attire (wristbands, gloves, footwear, etc.) is recommended.
- Damage inspection is recommended while performing characteristics inspection of LEDs.

## Disclaimers

Violumas is not responsible for any damages that result from inaccurate use of the recommended guidelines. The information compiled in this document is a result of careful review of reference materials and reliable sources. Violumas does not make any claims regarding warranty or guarantee. It is recommended that each customer consults the Violumas engineering team before engaging Violumas products in extreme applications where the failure of the LED and damage to human health may be possible. Each user assumes full responsibility for determining the suitability of the use of Violumas products in various applications. Disassembling Violumas products without consent is prohibited. No part of these documents may be reproduced in any form without prior written permission from Violumas. Please note that the data presented in this document is measured from the use of exclusive Flip Chip Opto patented products - the 3-PAD LED Flip Chip and the Pillar MCPCB.