



5x5 Compact High Power UV-C LED Array M5x5-S35-H-350-C

Featuring S3535-H SMD LEDs

V1.1

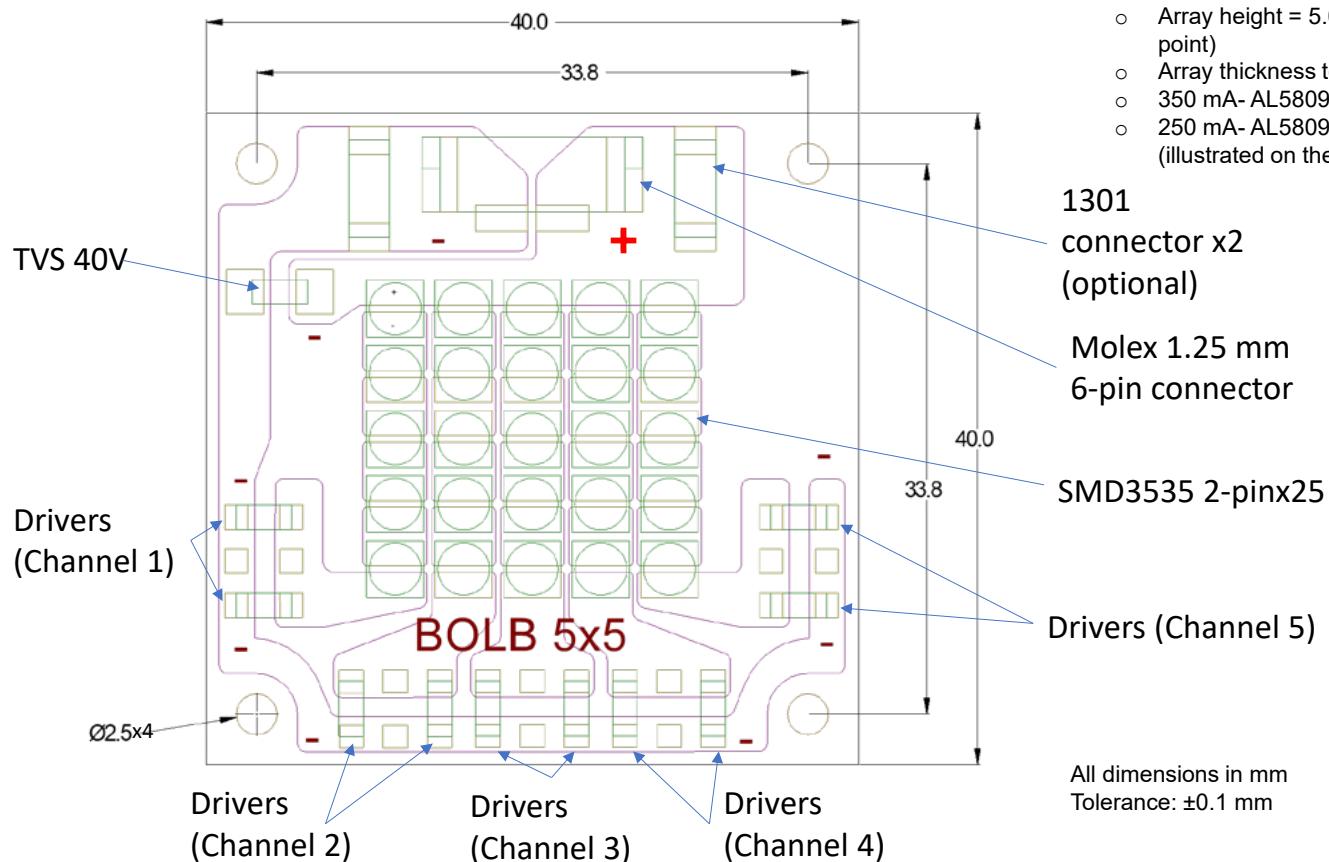
September 2024

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5x5 module Compact SMD3535-H Specifications M5x5-S35-H-350-Compact



Notes:

- Array height = 5.0mm (Molex PicoBlade is the highest point)
- Array thickness to top of lens = 4.6mm
- 350 mA- AL5809-120 mA x3 per channel (image below)
- 250 mA- AL5809-120 mA and 150 mA per channel (illustrated on the left)

1301
connector x2
(optional)

Molex 1.25 mm
6-pin connector

SMD3535 2-pin x 25

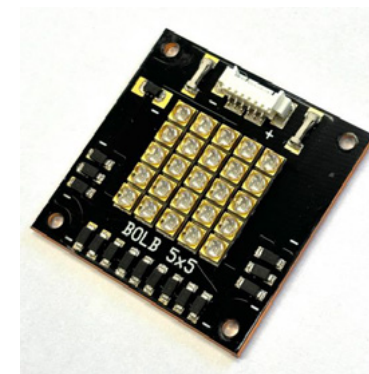
Drivers (Channel 5)

Drivers (Channel 4)

Drivers (Channel 3)

Drivers (Channel 2)

Drivers (Channel 1)



All dimensions in mm
Tolerance: ±0.1 mm

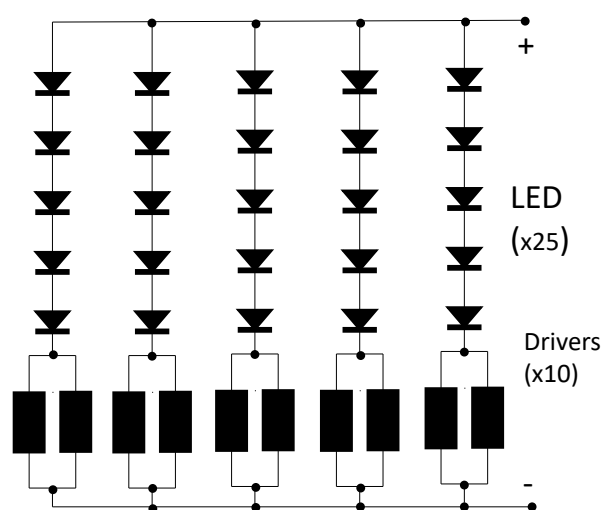


21.8	23	26	20	26.4	---	532611771	17
19.3	20.5	23.5	17.5	23.9	---	532611571	15
18.05	19.25	22.25	16.25	22.65	532611427	532611471	14
16.8	18	21	15	21.4	---	532611371	13
15.55	16.75	19.75	13.75	20.15	532611227	532611271	12
14.3	15.5	18.5	12.5	18.9	---	532611171	11
13.05	14.25	17.25	11.25	17.65	---	532611071	10
11.8	13	16	10	16.4	532610927	532610971	9
10.55	11.75	14.75	8.75	15.15	532610827	532610871	8
9.3	10.5	13.5	7.5	13.9	532610727	532610771	7
8.05	9.25	12.25	6.25	12.65	532610627	532610671	6
6.8	8	11	5	11.4	532610527	532610571	5
5.55	6.75	9.75	3.75	10.15	532610427	532610471	4
4.3	5.5	8.5	2.5	8.9	532610327	532610371	3
3.05	4.25	7.25	1.25	7.65	---	532610271	2
					色：黒 COLOUR: BLACK	色：ナチュラル(ベージュ) COLOUR: NATURAL (BEIGE)	
E	D	C	B	A	△ ₁₁ 発注番号 ORDER NO		極数 CIRCUIT SIZE
					梱包形態：エンボス梱包 PACKAGING：EMBOSSED TAPE AND REEL		

A 3D perspective view of a multi-pin connector assembly. The assembly consists of a base with several pins extending upwards. A label 'ay' is visible on the left side of the base.

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Schematic of Electrical Connections



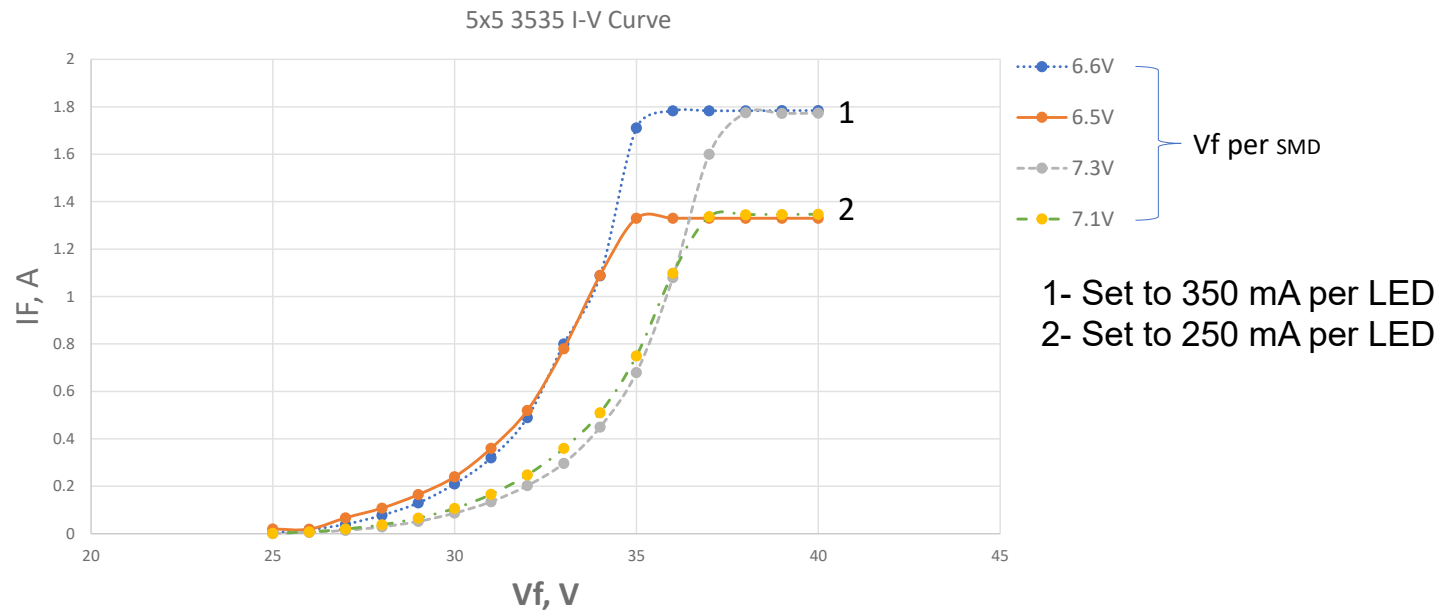
Drive current is either **250mA**/LED ($2.5W_{opt}$) or **350mA**/LED ($3.75W_{opt}$)
On-board LED drivers are selected based on the above power selections

Specifications

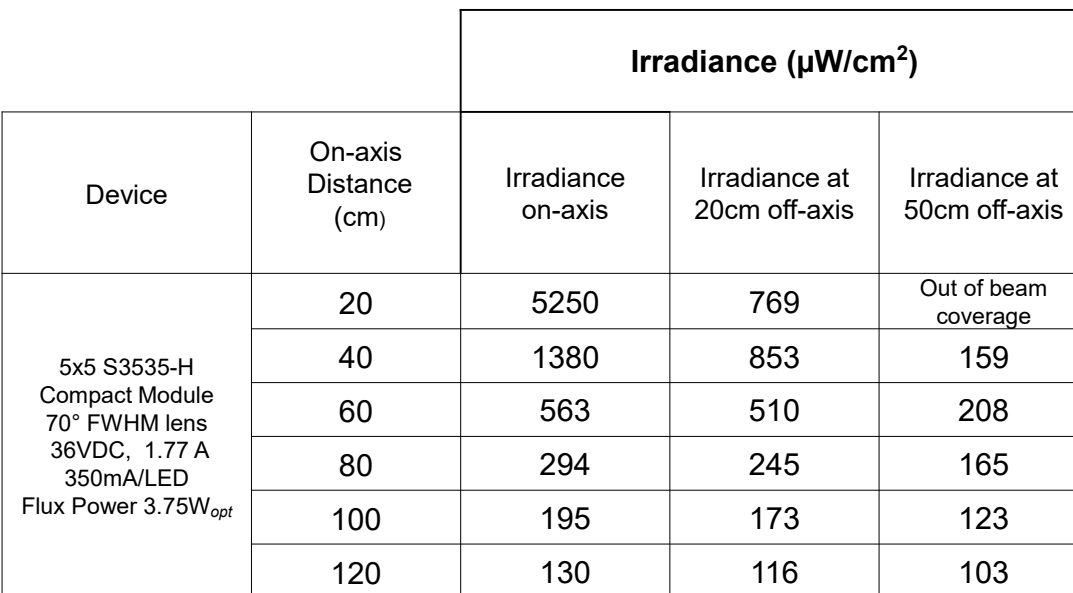
1. Output 3.75W optical at 350mA/LED
2. Output 2.5W optical at 250mA/LED
3. Active cooling required. A heat pipe rated at 100W dissipated power or above is recommended
4. A high thermal conductivity grease is highly recommended for good thermal connection to a heatsink
5. Power supply- **capable of 40V DC, 3A** with voltage stabilization.
6. PCB has 1 connector Molex 1.25 mm 6 pins (3 pins parallel for each polarity) for connections to the power supply
7. PCB has 2 optional Kyocera connectors (wires AWG-23 or 24) for connections to the power supply
8. No additional soldering is required

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5x5 S3535-H Compact Module I-V data

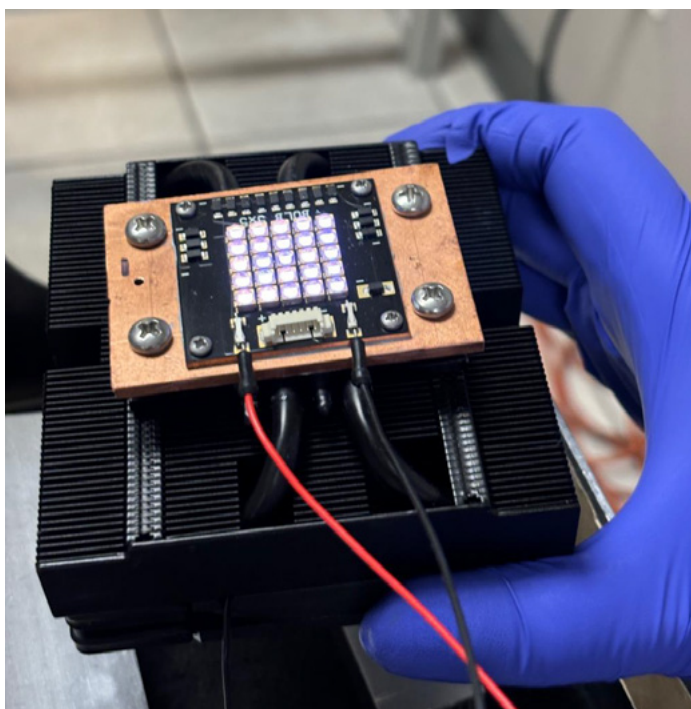


Design Note: Power supply to the array should be chosen to allow potential voltages of 7.5V per LED at 350mA. Assuming a further 3V drop on the constant-current drivers, the power supply ideally should be chosen to provide $\geq 40V$ at 3A maximum.

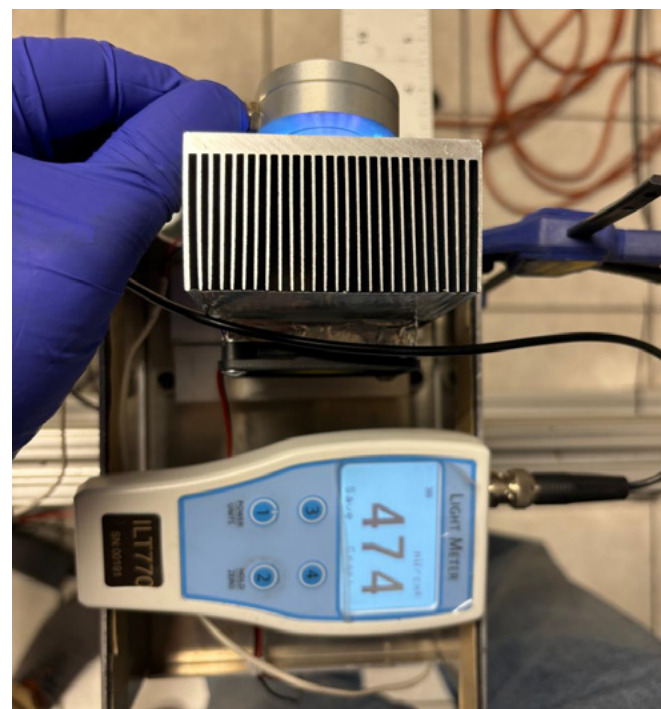


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Irradiance of the 5x5 Compact Array Reaches **>450mW/cm²** at 1.0 cm When Driven at **350mA/LED**



Note: 4-pipes cooler- ID-COOLING IS-40X V3 45mm Height Low Profile CPU Cooler 4 Heat with 15mm-thick Slim Fan and copper adapter, high thermal conductivity thermal compound, Geniel G108, 4.63 W/m-K



Note: Extruded aluminum heatsink 23 fin 70x70x35 mm, with a standard 60x60x20 mm, 12V d.c. 1.5Watt fan



Thermal Management Examples for the 5x5 Array

(Temperatures measured after 1 hour thermal stabilization)

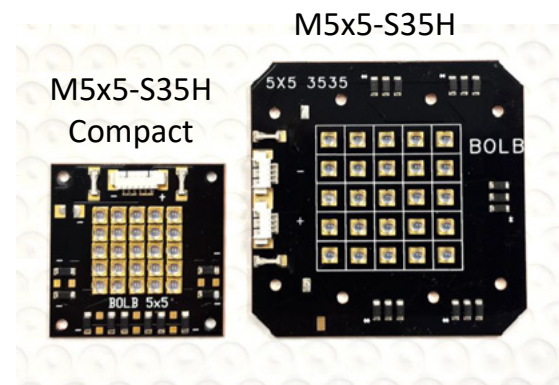
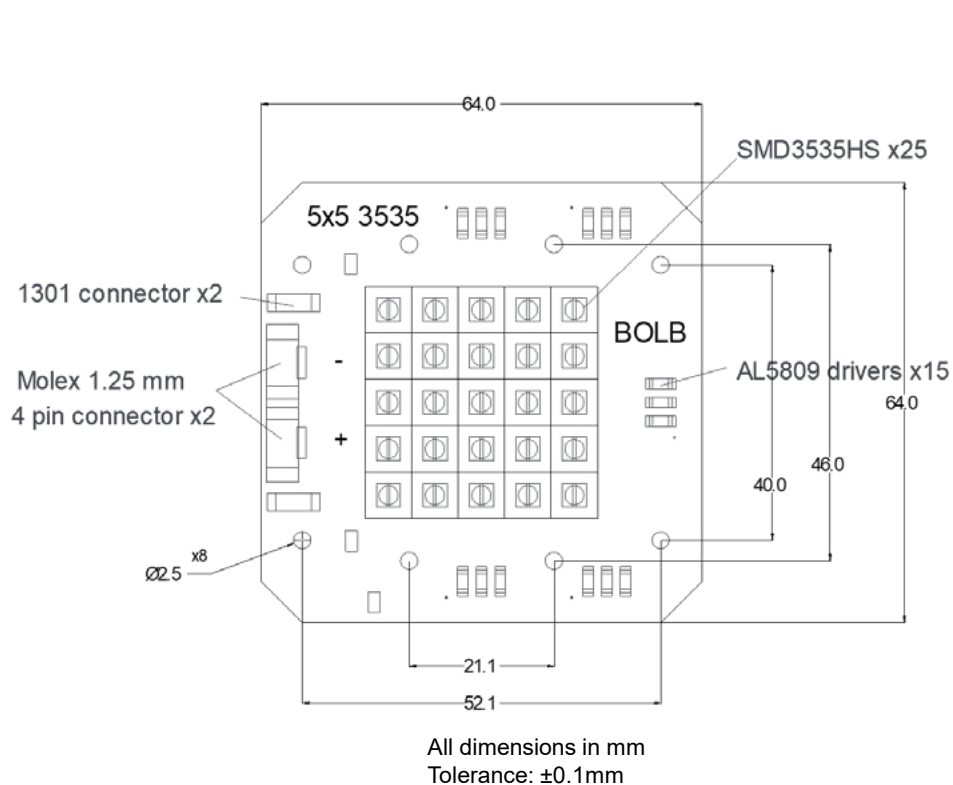
Cooler	Cu-base PCB	Heat Sink Sizes in mm	Fan	Adapter
Extruded Aluminum Heatsink with fan 350mA / LED	53.2°C	Extruded aluminum heatsink 70x70x35	12V DC, 1.5 Watt 60x60x25 220 grams	None required
Heat Pipe (4) 350mA / LED	38.3°C	4 pipes Heat pipe cooler (optimal: LED face down)	Fan12VDC 92x92x15 440 grams	Cu adapter
Extruded Aluminum Heatsink with fan 250mA / LED	43.7°C	Extruded aluminum heatsink 70x70x35	12V DC, 1.5 Watt 60x60x25 220 grams	None required

Notes:

4-pipes cooler: ID-COOLING IS-40X V3 45mm Height Low Profile CPU Cooler 4 Heat pipes CPU Cooler with 15mm-thick Slim Fan and copper adapter (or other heat pipes with rated dissipation >100W)

Thermal Paste Recommendation: Gennel G108, 4.63 W/m-K

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For prior customers of M5x5-S6060

Bolb also provides a larger array with same footprint for easy transition:

- Same external dimensions and mounting hole locations as the prior board (except thickness increases to 5mm with Molex connectors);
- Same large contact area for excellent thermal extraction;
- S6060 replaced by the new S3535-H with associated increase in light output and increased irradiance.
- Please contact info@bolbinc.com for additional details.

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WARNING UV emitted from this product. Avoid eye and skin exposure to unshielded product

AVERTISSEMENT UV émis par ce produit. Éviter l'exposition des yeux et de la peau à un produit non protégé

ADVERTENCIA Emisión de rayos ultravioleta por este producto. Evite la exposición de los ojos y la piel al producto sin protección

警告 この製品から放出される紫外線。シールドされていない製品への目や皮膚の露出を避ける

UVC LEDs emit deep ultraviolet radiation with extremely high intensity near their surface. High irradiance allows rapid disinfection, but users must observe **strict safety precautions** during assembly, testing, and field use.

By purchasing the UVC chips (bare dice), packaged LEDs, or arrays from BOLB Inc., the customer agrees to indemnify the manufacturer of any bodily harm due to failure to follow the common-sense precautions or warnings and guidelines contained within this Specification.

It is the buyer's responsibility to design products that ensure the safety of end users.

All assembly workers, operators, and bystanders must wear eye and skin protection when the UVC LEDs are energized. Therefore, bare-eye observation (including through microscopes) and bare-hand handling of a UVC LED in operation is **PROHIBITED**.

Because most materials readily absorb UVC light, any oil or other absorbent liquid or solid substance must **NOT** be allowed to touch the sapphire side of the UVC chip, the quartz window or dome lens on a packaged LED.

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