



## PRODUCT CHANGE NOTIFICATION

PCN No: PCN-1098

Issue Date: 8/29/2025

|                |        |          |   |          |   |
|----------------|--------|----------|---|----------|---|
| Parts Affected | 5BWD-F | Old Rev. | B | New Rev. | C |
|                | 5BWC   |          | B |          | C |
|                | 5BWD   |          | B |          | C |
|                | 3BWD-F |          | D |          | E |
|                | 3BWD-S |          | D |          | E |

### Change Will Affect:

LED optical, electrical and mechanical characteristics.

### Description of Change:

A change in the epoxy material used for lens encapsulation has led to a variation in the visual appearance of the lens color.

Other changes are reflected as shown in the tables below.

**Effective Date of Change:** August 29, 2025

**Reason for Change:** Discontinuance of the epoxy material used for the lens encapsulation.

These changes have been reviewed and approved by Bivar management per Bivar Procedure: Engineering Change Order and Part Change Notification, SOP-040, SOP-ENG-045

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### 3BWX-X

|    | Specification                        | 3BWX-X Rev. D   | 3BWX-X Rev. E   |
|----|--------------------------------------|-----------------|-----------------|
| 1  | Power Dissipation (mW)               | 150             | 170             |
| 2  | Peak Forward Current (mA)            | 70              | 100             |
| 3  | Operating Temperature (C)            | -25 to +85      | -40 to +80      |
| 4  | Storage Temperature Range (C)        | -25 to +100     | -40 to +100     |
| 5  | Directivity Radiation Diagram        | REF             | UPDATED         |
| 6  | Lumen vs Wavelength Graph @20mA      | REF             | UPDATED         |
| 7  | Forward Current vs Forward Voltage   | REF             | UPDATED         |
| 8  | Material:                            |                 |                 |
|    | 3BWD-F                               | GaN/SiC         | GaN/SiC         |
|    | 3BWD-S                               | GaN/SiC         | InGaN/SiC       |
| 9  | Dominant Wavelength (nm):            |                 |                 |
|    | 3BWD-F                               | N/A - N/A - N/A | 455 - 460 - 465 |
|    | 3BWD-S                               | N/A - N/A - N/A | 460 - 465 - 470 |
| 10 | Luminous Intensity MIN/TYP/MAX (mcd) |                 |                 |
|    | 3BWD-F                               | 5/10/2020       | 10/20/1935      |
|    | 3BWD-S                               | 5/10/2020       | 7/14/2028       |
| 11 | Peak Wavelength TYP (nm)             |                 |                 |
|    | 3BWD-F                               | 430             | 430             |
|    | 3BWD-S                               | 430             | 455             |
| 12 | View Angle (Degree)                  |                 |                 |
|    | 3BWD-F                               | 35              | 50              |
|    | 3BWD-S                               | 40              | 40              |
| 13 | Forward Voltage MIN, TYP, MAX (V)    |                 |                 |
|    | 3BWD-F                               | N/A - 4 - 4.5   | 3.5 - 4 - 4.5   |
|    | 3BWD-S                               | N/A - 4 - 4.5   | 3.1 - 3.8 - 4.5 |
| 14 | Reverse Current MAX (uA)             |                 |                 |
|    | 3BWD-F                               | 100             | 10              |
|    | 3BWD-S                               | 100             | 20              |

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### 5BWX-X

|    | Specification                        | 5BWX-X Rev. B   | 5BWX-X Rev. C   |
|----|--------------------------------------|-----------------|-----------------|
| 1  | Power Dissipation (mW)               | 150             | 170             |
| 2  | Peak Forward Current (mA)            | 70              | 100             |
| 3  | Operating Temperature (C)            | -25 to +85      | -30 to +100     |
| 4  | Storage Temperature Range (C)        | -25 to +80      | -40 to +100     |
| 5  | Directivity Radiation Diagram        | REF             | UPDATED         |
| 6  | Lumen vs Wavelength Graph @20mA      | REF             | UPDATED         |
| 7  | Forward Current vs Forward Voltage   | REF             | UPDATED         |
| 8  | Material:                            | GaN/SiC         | InGaN/SiC       |
| 9  | Dominant Wavelength (nm):            |                 |                 |
|    | 5BWD-F                               | N/A - N/A - N/A | 460 - 465 - 470 |
|    | 5BWC                                 | N/A - N/A - N/A | 460 - 465 - 470 |
|    | 5BWD                                 | N/A - N/A - N/A | 425 - 430 - 435 |
| 10 | Luminous Intensity MIN/TYP/MAX (mcd) |                 |                 |
|    | 5BWD-F                               | N/A - 15 - N/A  | 10 - 20 - 35    |
|    | 5BWC                                 | N/A - 30 - N/A  | 60 - 150 - 300  |
|    | 5BWD                                 | N/A - 15 - N/A  | 6 - 15 - 25     |
| 11 | Peak Wavelength TYP (nm)             |                 |                 |
|    | 5BWD-F                               | 430             | 460             |
|    | 5BWC                                 | 430             | 460             |
|    | 5BWD                                 | 430             | 425             |
| 12 | View Angle (Degree)                  |                 |                 |
|    | 5BWD-F                               | 40              | 50              |
|    | 5BWC                                 | 20              | 18              |
|    | 5BWD                                 | 45              | 30              |
| 13 | Forward Voltage MIN, TYP, MAX (V)    |                 |                 |
|    | 5BWD-F                               | N/A - 4 - 4.5   | 3.1 - 3.8 - 4.5 |
|    | 5BWC                                 | N/A - 4 - 4.5   | 3.5 - 4 - 4.5   |
|    | 5BWD                                 | N/A - 4 - 4.5   | 3.5 - 4 - 4.5   |
| 14 | Reverse Current MAX (uA)             |                 |                 |
|    | 5BWD-F                               | 100             | 20              |
|    | 5BWC                                 | 100             | 10              |
|    | 5BWD                                 | 100             | 10              |

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