



| Revision History | | | | |
|------------------|---------|-----------------------------------|----------------|--------------|
| Rev. | ECN# | Reason and Description of Change | ECN Originator | Release date |
| 00 | 11-0331 | Initial Release (Preliminary) | KL Tai | |

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Flux Characteristics

| Shape | White | Base Part Number | Luminous Flux, Φ_v [1, 2] (lm) | | Typ Power [3] |
|-----------|-------|------------------|--|------|---------------|
| | | | Min | Typ | Watt |
| Rectangle | Warm | DDEB-W215 | 1000 | 1200 | 15.3 |

Notes:

1. Φ_v is the total luminous flux output as device is tested at DSEM flux tester setup. For tester detail, please contact DSEM sales representatives.
2. Flux measurement tolerance is $\pm 7\%$
3. Parts are tested in pulsed conditions, $T_j = 25^\circ\text{C}$. Test current at 0.5A.

Absolute Maximum Ratings

| Parameter | Rating | Units |
|---|-------------|------------------|
| DC Forward Current @ $T_j = 115^\circ\text{C}$ ^[1] | 750 | mA |
| LED Junction Temperature | 115 | $^\circ\text{C}$ |
| Operating Temperature | -40 to +85 | $^\circ\text{C}$ |
| Storage Temperature | -40 to +105 | $^\circ\text{C}$ |
| ESD Sensitivity (HBM Class 2) | TBD | V |

Notes:

1. Proper current derating must be observed to maintain junction temperature below the maximum rating.

Electrical Characteristics @Thermal Pad Temperature, $T_c = 25^\circ\text{C}$

| Base Part Number | Forward Voltage, V_F (Volts) | | Thermal Resistance | Test Current |
|------------------|--------------------------------|------|---|--------------|
| | typ | Max | $R_{\theta j-s}$ ($^\circ\text{C}/\text{W}$) ^[1] | (mA) |
| DDEB-W215 | 30.5 | 34.0 | 2.0 | 500 |

Note:

1. $R_{\theta j-s}$ is Thermal Resistance from LED junction to substrate.

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Optical Characteristics @Thermal Pad Temperature, $T_c = 25^\circ\text{C}$ ^[1]

| White | ANSI CCT (Kelvin) ^[2] | | | Color Rendering Index | Viewing Angle $2\theta_{1/2}$ ^[3] (Degrees) |
|-------|----------------------------------|---------|------|-----------------------|--|
| | Min | Nominal | Max | Min | Typ |
| Warm | 2580 | 3000 | 3700 | 80 | 120 |

Note:

1. Test current as per absolute maximum ratings table.
2. CCT $\pm 5\%$ tester tolerance.
3. Viewing angle is the off axis angle from lamp centerline where the luminous intensity is $\frac{1}{2}$ of the peak value.

Luminous Flux Binning

The table below lists the standard photometric luminous flux bins. All production testing and binning is conducted under pulsed test conditions at $T_j = 25^\circ\text{C}$.

| Code | Minimum Flux (lm) | Code | Minimum Flux (lm) |
|------|-------------------|------|-------------------|
| A | 320 | N | 1100 |
| B | 360 | P | 1200 |
| C | 400 | Q | 1320 |
| D | 450 | R | 1450 |
| E | 500 | S | 1600 |
| F | 560 | T | 1800 |
| G | 620 | U | 2000 |
| H | 680 | V | 2200 |
| J | 750 | W | 2450 |
| K | 820 | X | 2650 |
| L | 900 | Y | 3000 |
| M | 1000 | Z | 3300 |

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Color Binning

Note: Tolerance for chromaticity coordinates is ± 0.01 .



| Bin | x | y | CCT (K) |
|-----|--------|--------|---------|
| 3J | 0.4216 | 0.4270 | 3500 |
| | 0.4378 | 0.4346 | |
| | 0.4299 | 0.4165 | |
| | 0.4148 | 0.4090 | |
| 3K | 0.4083 | 0.3921 | 3500 |
| | 0.4148 | 0.4090 | |
| | 0.4299 | 0.4165 | |
| | 0.4223 | 0.3990 | |
| 3L | 0.4018 | 0.3752 | 3500 |
| | 0.4083 | 0.3921 | |
| | 0.4223 | 0.3990 | |
| | 0.4147 | 0.3814 | |
| 3M | 0.4018 | 0.3752 | 3500 |
| | 0.4147 | 0.3814 | |
| | 0.4071 | 0.3639 | |
| | 0.3955 | 0.3589 | |
| 3N | 0.4055 | 0.4194 | 3500 |
| | 0.4216 | 0.4270 | |
| | 0.4148 | 0.4090 | |
| | 0.3996 | 0.4015 | |
| 3P | 0.3943 | 0.3853 | 3500 |
| | 0.3996 | 0.4015 | |
| | 0.4148 | 0.4090 | |
| | 0.4083 | 0.3921 | |
| 3Q | 0.3889 | 0.3690 | 3500 |
| | 0.3943 | 0.3853 | |
| | 0.4083 | 0.3921 | |
| | 0.4018 | 0.3752 | |
| 3R | 0.3889 | 0.3690 | 3500 |
| | 0.4018 | 0.3752 | |
| | 0.3955 | 0.3589 | |
| | 0.3840 | 0.3539 | |

| Bin | x | y | CCT (K) |
|-----|--------|--------|---------|
| 3A | 0.4517 | 0.4395 | 3000 |
| | 0.4657 | 0.4444 | |
| | 0.4562 | 0.4260 | |
| | 0.4431 | 0.4213 | |
| 3B | 0.4345 | 0.4033 | 3000 |
| | 0.4431 | 0.4213 | |
| | 0.4562 | 0.4260 | |
| | 0.4468 | 0.4077 | |
| 3C | 0.4260 | 0.3854 | 3000 |
| | 0.4345 | 0.4033 | |
| | 0.4468 | 0.4077 | |
| | 0.4373 | 0.3893 | |
| 3D | 0.4260 | 0.3854 | 3000 |
| | 0.4373 | 0.3893 | |
| | 0.4279 | 0.3710 | |
| | 0.4175 | 0.3674 | |
| 3E | 0.4378 | 0.4346 | 3000 |
| | 0.4517 | 0.4395 | |
| | 0.4431 | 0.4213 | |
| | 0.4299 | 0.4165 | |
| 3F | 0.4223 | 0.3990 | 3000 |
| | 0.4299 | 0.4165 | |
| | 0.4431 | 0.4213 | |
| | 0.4345 | 0.4033 | |
| 3G | 0.4147 | 0.3814 | 3000 |
| | 0.4223 | 0.3990 | |
| | 0.4345 | 0.4033 | |
| | 0.4260 | 0.3854 | |
| 3H | 0.4147 | 0.3814 | 3000 |
| | 0.4260 | 0.3854 | |
| | 0.4175 | 0.3674 | |
| | 0.4071 | 0.3639 | |

| Bin | x | y | CCT (K) |
|-----|--------|--------|---------|
| 2J | 0.4790 | 0.4475 | 2700 |
| | 0.4923 | 0.4507 | |
| | 0.4813 | 0.4319 | |
| | 0.4688 | 0.4290 | |
| | 0.4688 | 0.4290 | |
| 2K | 0.4586 | 0.4104 | 2700 |
| | 0.4688 | 0.4290 | |
| | 0.4813 | 0.4319 | |
| | 0.4703 | 0.4132 | |
| | 0.4703 | 0.4132 | |
| 2L | 0.4483 | 0.3919 | 2700 |
| | 0.4586 | 0.4104 | |
| | 0.4703 | 0.4132 | |
| | 0.4593 | 0.3944 | |
| | 0.4593 | 0.3944 | |
| 2M | 0.4483 | 0.3919 | 2700 |
| | 0.4593 | 0.3944 | |
| | 0.4483 | 0.3757 | |
| | 0.4381 | 0.3733 | |
| | 0.4381 | 0.3733 | |
| 2N | 0.4657 | 0.4444 | 2700 |
| | 0.4790 | 0.4475 | |
| | 0.4688 | 0.4290 | |
| | 0.4562 | 0.4260 | |
| | 0.4562 | 0.4260 | |
| 2P | 0.4468 | 0.4077 | 2700 |
| | 0.4562 | 0.4260 | |
| | 0.4688 | 0.4290 | |
| | 0.4586 | 0.4104 | |
| | 0.4586 | 0.4104 | |
| 2Q | 0.4373 | 0.3893 | 2700 |
| | 0.4468 | 0.4077 | |
| | 0.4586 | 0.4104 | |
| | 0.4483 | 0.3919 | |
| | 0.4483 | 0.3919 | |
| 2R | 0.4373 | 0.3893 | 2700 |
| | 0.4483 | 0.3919 | |
| | 0.4381 | 0.3733 | |
| | 0.4279 | 0.3710 | |
| | 0.4279 | 0.3710 | |

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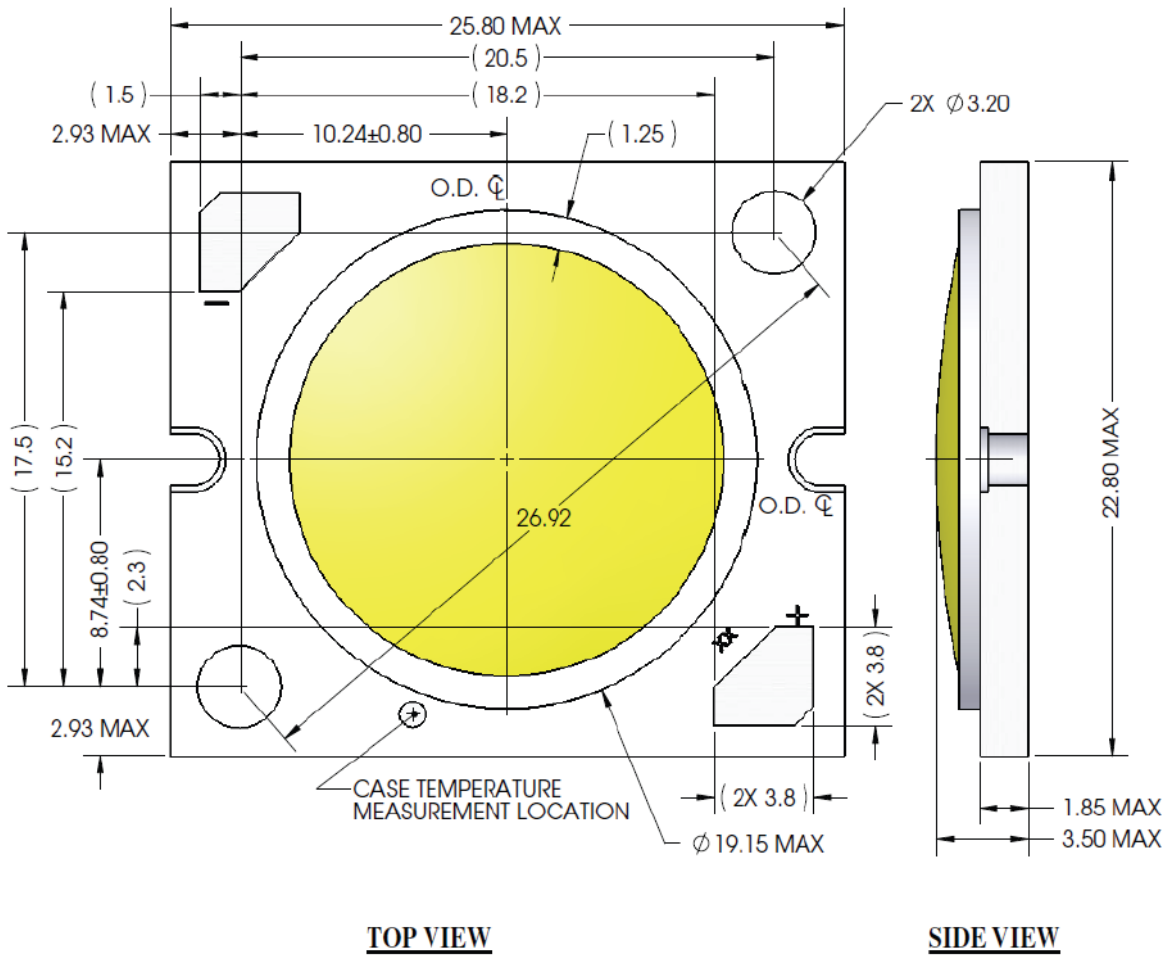
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Mechanical Drawing



Note:

1. Drawing for DDEB-W213 product options.
2. Drawings are not to scale.
3. Drawing dimensions are in mm.

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Product Packaging and Labeling

All DSEM LEDs are 100% tested, binned and labeled.
 Products are labeled by printing information on the back side of the unit.
 The following format is used for labeling:

X X X X
 A B C D – E F G H
 M N O P Q – Y Y W W

Where:

- X X X X – designates the bin code (G02K, etc.)
- A B C D – E F G H – designates the base part number (DDAL-U010, etc.)
- M N O P Q – designates the production lot code (12345, etc.)
- Y Y W W – designates the date code (production year and production week, 1020, etc.)

Individual units are packaged in tubes for shipment. All products packaged within a single tube are of the same flux and color bin combination (or bin code). Each tube is labeled with the information required for effective inventory management. An example of the tube label and is included below:



Tube Label

Where:

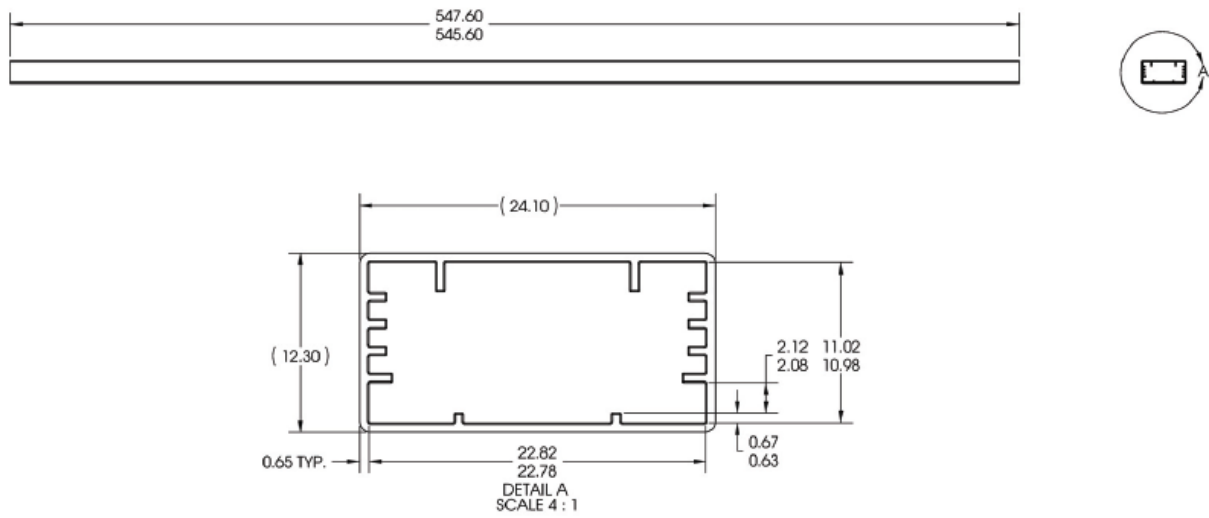
- X X X X – designates the bin code (G02K, etc.)
- A B C D – E F G H – designates the base part number (DDAL-U010, etc.)
- M N O P Q – designates the production lot code (12345, etc.)
- Y Y W W – designates the date code (production year and production week, 1020, etc.)
- Z Z – designates the quantity

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Packaging Tube Design



Note:

1. Drawing for DDEB-W215 product options.
2. Drawings are not to scale.
3. Drawing dimensions are in mm.

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