



Revision History				
Rev.	ECN#	Reason and Description of Change	ECN Originator	Release date
00	11-0323	Initial Release (Preliminary)	AW Leong	13 th Sept 2011

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Product Code: DDAL-X010

Flux Characteristics

Shape	White	Base Part Number	Luminous Flux, Φ_v [1, 2] (lm)		Typ Power [3]	Luminous Efficiency
			Min	Typ	Watt	Lm/W
Hexagon	Cool	DDAL-C010	900	950	10.1	90 (min)

Notes:

- 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.
- Flux measurement tolerance is $\pm 7\%$
- Parts are tested in pulsed conditions, $T_j = 25^\circ\text{C}$. Test current at 1.05A.

Absolute Maximum Ratings

Parameter	Rating	Units
DC Forward Current @ $T_j = 150^\circ\text{C}$ [1]	1500	mA
LED Junction Temperature	125	$^\circ\text{C}$
Operating Temperature	-40 to +85	$^\circ\text{C}$
Storage Temperature	-40 to +105	$^\circ\text{C}$
ESD Sensitivity (HBM Class 2)	TBD	V

Notes:

- 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)		Reverse Voltage, V_R [1]	Thermal Resistance $R_{\theta j-s}$ ($^\circ\text{C}/\text{W}$) [2]	Test Current (mA)
	typ	Max			
DDAL-X010	9.6	10.8	24	1.0	1050

Note:

- Parts are not designed for reverse bias operation.
- $R_{\theta j-s}$ is Thermal Resistance from LED junction to substrate.

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Optical Characteristics @Thermal Pad Temperature, T_c = 25° C ^[1]

White	ANSI CCT (Kelvin) ^[2]			Color Rendering Index	Viewing Angle 2θ _{1/2} ^[3] (Degrees)
	Min	Nominal	Max		
Cool	4750	5000	5310	60	120
	5310	5700	6020		
	6020	6500	7040		

Note:

1. Test current as per absolute maximum ratings table.
2. CCT ±5% tester tolerance.
3. Viewing angle is the off axis angle from lamp centerline where the luminous intensity is ½ 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°C.

Code	Min Flux (lm)	Max Flux (lm)
K	640	720
L	720	805
M	805	900
N	900	1005
P	1005	1120
Q	1120	1250
R	1250	1400
S	1400	1570

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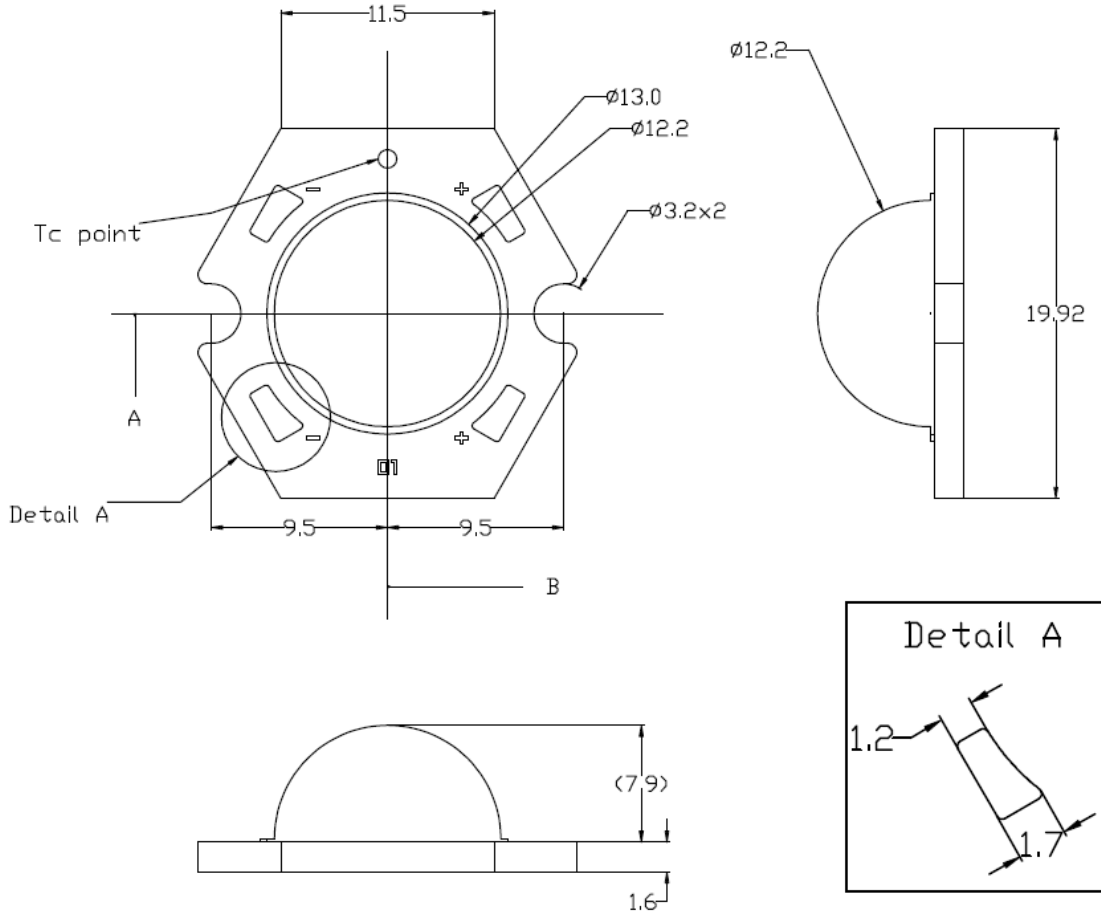
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Mechanical Drawing



Note:

1. Drawing for DDAL-X010 product options.
2. Drawings are not to scale.
3. Drawing dimensions are in mm.
4. Thermal pad temperature measured at Tc point.

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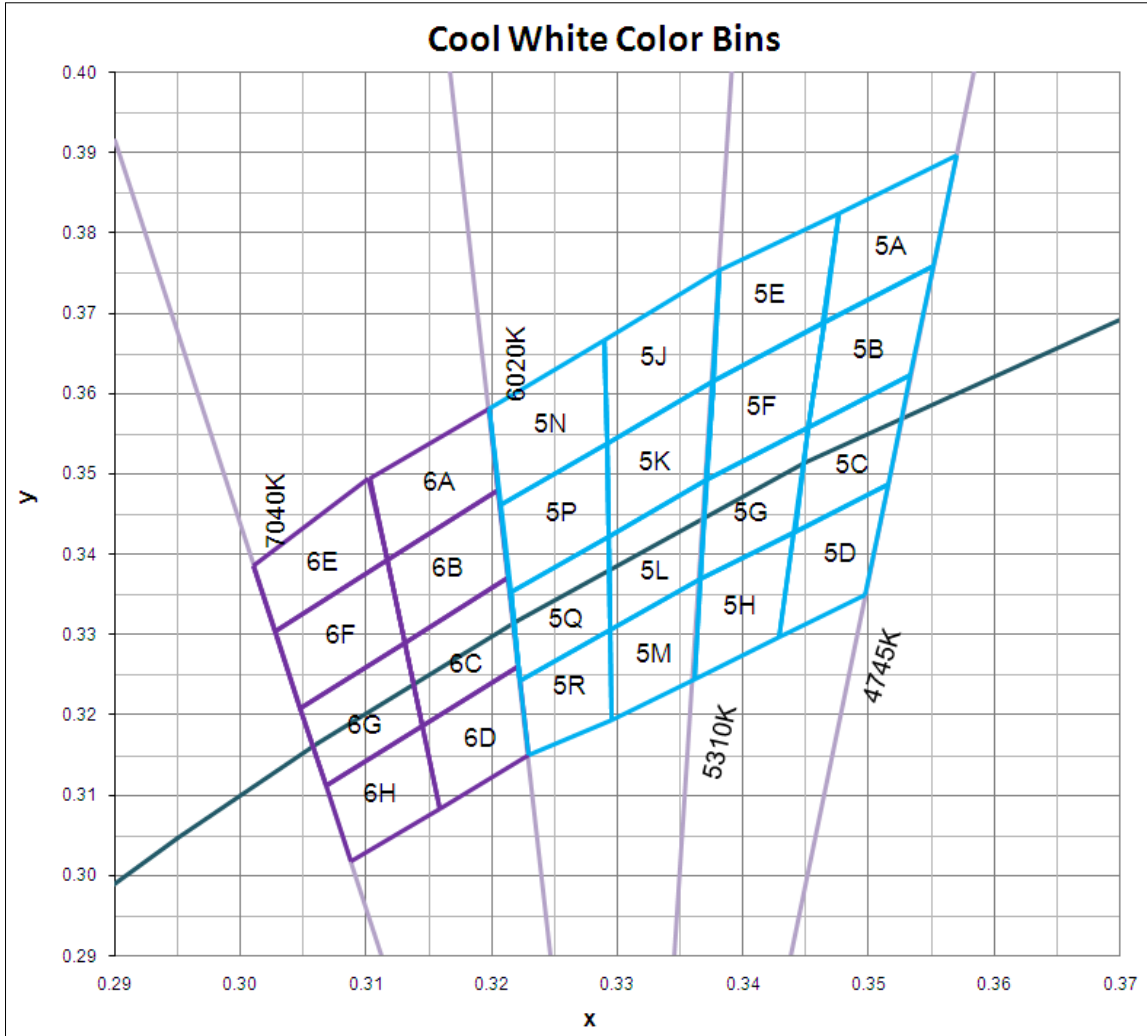
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Color Binning

Note: Tolerance for chromaticity coordinates is ± 0.01 .



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Bin	x	y	CCT (K)
6A	0.3103	0.3495	6500
	0.3198	0.3582	
	0.3205	0.3481	
	0.3117	0.3393	
6B	0.3131	0.3290	6500
	0.3213	0.3371	
	0.3205	0.3481	
	0.3117	0.3393	
6C	0.3145	0.3187	6500
	0.3221	0.3261	
	0.3213	0.3371	
	0.3131	0.3290	
6D	0.3145	0.3187	6500
	0.3221	0.3261	
	0.3229	0.3151	
	0.3159	0.3084	
6E	0.3010	0.3385	6500
	0.3103	0.3495	
	0.3117	0.3393	
	0.3028	0.3304	
6F	0.3048	0.3209	6500
	0.3131	0.3290	
	0.3117	0.3393	
	0.3028	0.3304	
6G	0.3068	0.3113	6500
	0.3145	0.3187	
	0.3131	0.3290	
	0.3048	0.3209	
6H	0.3068	0.3113	6500
	0.3145	0.3187	
	0.3159	0.3084	
	0.3088	0.3018	

Bin	x	y	CCT (K)
5J	0.3290	0.3668	5700
	0.3382	0.3754	
	0.3376	0.3616	
	0.3292	0.3539	
5K	0.3292	0.3539	5700
	0.3293	0.3423	
	0.3371	0.3493	
	0.3376	0.3616	
5L	0.3294	0.3306	5700
	0.3366	0.3369	
	0.3371	0.3493	
	0.3293	0.3423	
5M	0.3294	0.3306	5700
	0.3366	0.3369	
	0.3361	0.3246	
	0.3295	0.3194	
5N	0.3198	0.3582	5700
	0.3290	0.3668	
	0.3292	0.3539	
	0.3207	0.3462	
5P	0.3222	0.3243	5700
	0.3294	0.3306	
	0.3293	0.3423	
	0.3215	0.3353	
5Q	0.3215	0.3353	5700
	0.3293	0.3423	
	0.3292	0.3539	
	0.3207	0.3462	
5R	0.3222	0.3243	5700
	0.3294	0.3306	
	0.3295	0.3194	
	0.3229	0.3151	

Bin	x	y	CCT (K)
5A	0.3476	0.3825	5000
	0.3569	0.3897	
	0.3551	0.3760	
	0.3464	0.3688	
5B	0.3464	0.3688	5000
	0.3551	0.3760	
	0.3533	0.3624	
	0.3452	0.3558	
5C	0.3452	0.3558	5000
	0.3533	0.3624	
	0.3515	0.3487	
	0.3441	0.3428	
5D	0.3441	0.3428	5000
	0.3515	0.3487	
	0.3497	0.3351	
	0.3429	0.3298	
5E	0.3382	0.3754	5000
	0.3476	0.3825	
	0.3464	0.3688	
	0.3376	0.3616	
5F	0.3371	0.3493	5000
	0.3452	0.3558	
	0.3441	0.3428	
	0.3366	0.3369	
5G	0.3376	0.3616	5000
	0.3464	0.3688	
	0.3452	0.3558	
	0.3371	0.3493	
5H	0.3366	0.3369	5000
	0.3441	0.3428	
	0.3429	0.3298	
	0.3361	0.3246	

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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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Tubes are packaged in bags prior to loading into boxes for shipment. One tube is loaded per bag. All products packaged within a single bag are of the same flux and color bin combination (or bin code). Each bag is labeled with the information required for effective inventory management. An example of the bag label is included below.



Bag Label

Where:

- XXXX – designates the bin code (G02K, etc.)
- ABCD – EFGH – designates the base part number (DDAL-U010, etc.)
- MNOPQ – designates the production lot code (12345, etc.)
- YYWW – designates the date code (production year and production week, 1020, etc.)
- ZZZ – designates the unit quantity in one bag

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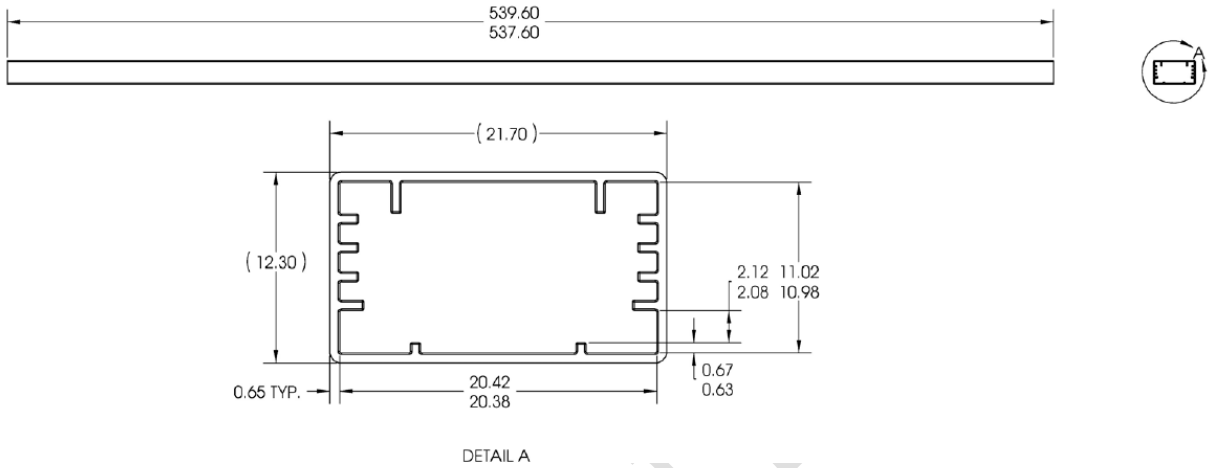
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Packaging Tube Design



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