

ASMT-UWB1-ZX7C2 Datasheet

www.digi-electronics.com



<https://www.DiGi-Electronics.com>

| | |
|------------------------------|--|
| DiGi Electronics Part Number | ASMT-UWB1-ZX7C2-DG |
| Manufacturer | Broadcom Limited |
| Manufacturer Product Number | ASMT-UWB1-ZX7C2 |
| Description | LED COOL WHITE 2PLCC SMD |
| Detailed Description | White, Cool 5700K LED Indication - Discrete 2-PLCC |

This model ASMT-UWB1-ZX7C2 is available at DiGi Electronics.

DiGi Electronics offers a global database of semiconductor and electronic component datasheets.

We welcome your inquiries regarding pricing, lead time, or other product-related questions.

 [Request a Quote](#)

 [Datasheet Search](#)



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:

ASMT-UWB1-ZX7C2

Series:

-

Color:

White, Cool

Lens Color:

-

Millicandela Rating:

-

Lens Size:

-

Current - Test:

-

Mounting Type:

Surface Mount

Wavelength - Peak:

-

Package / Case:

2-PLCC

Size / Dimension:

3.20mm L x 2.80mm W

Base Product Number:

ASMT-UWB1

Manufacturer:

Broadcom Limited

Product Status:

Active

Configuration:

Standard

Lens Transparency:

-

Lens Style:

-

Voltage - Forward (Vf) (Typ):

-

Viewing Angle:

-

Wavelength - Dominant:

5700K

Features:

-

Supplier Device Package:

2-PLCC

Height (Max):

2.10mm

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.41.0000

Moisture Sensitivity Level (MSL):

3 (168 Hours)

ECCN:

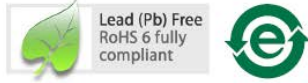
EAR99

ASMT-UWB1-Zxxxx

OneWhite Surface Mount PLCC-2 LED Indicator



Data Sheet



Description

This family of SMT LEDs is packaged in the industry standard PLCC-2 package. These SMT LEDs have high reliability performance and are designed to work under a wide range of environmental conditions. This high reliability feature makes them ideally suited to be used as interior signs application conditions.

These LEDs are compatible with reflow soldering process.

The wide viewing angle at 120° makes these LEDs ideally suited for panel, push button, office equipment, industrial equipment, and home appliances. The flat top emitting surface makes it easy for these LEDs to mate with light pipes. With the built-in reflector pushing up the intensity of the light output, these LEDs are also suitable to be used as LED pixels in interior electronic signs.

Features

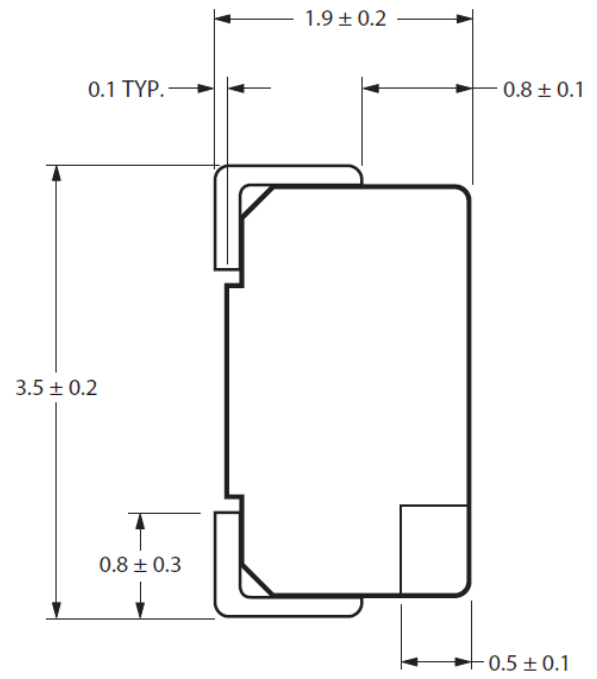
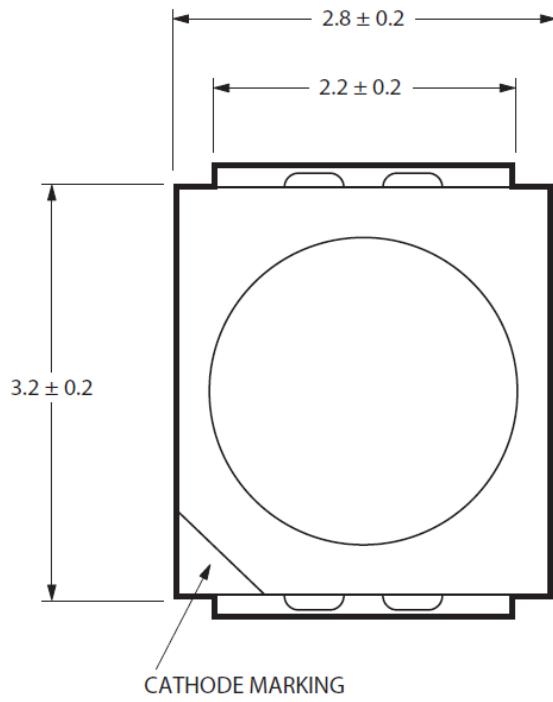
- High reliability package with silicone encapsulation
- Compatible with reflow soldering process
- High optical efficiency with 100 lm/W
- Available in 8 mm carrier tape with reel diameter 180mm
- JEDEC MSL 3 product
- ESD threshold of 1000 V (HBM model) per Jedec

Applications

- Non-automotive use
- General Signage backlighting
- Amusement machine backlighting
- Industrial lighting
- Light strips

CAUTION: ASMT-UWB1-Zxxxx LEDs are Class 1C ESD sensitive. Please observe appropriate precautions during handling and processing. Refer to Avago Application Note AN-1142 for additional details.

Package Dimensions



Notes:

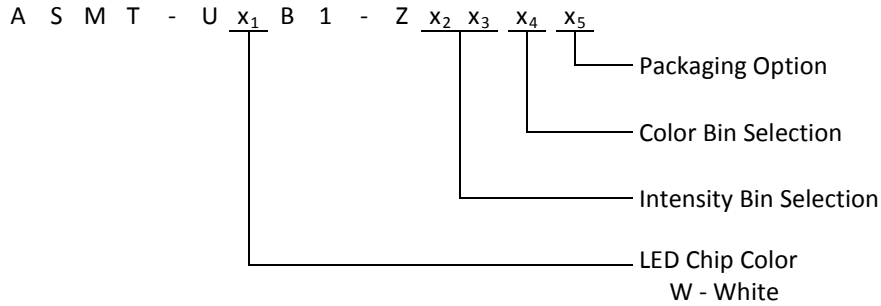
1. All dimensions in millimeters.
2. Terminal finish = Ag plating.

Device Selection Guide

| Color | Part Number | CCT (K) | Luminous Intensity (mcd) ^[1,2] | | Test Current (mA) | Chip |
|-------|-----------------|-------------|---|---------|----------------------|-------|
| | | | Min | Max | | |
| White | ASMT-UWB1-ZX302 | 4500 ~ 8000 | 1800.00 | 3550.00 | 20 | InGaN |
| White | ASMT-UWB1-ZX312 | 2700 ~ 4000 | 1800.00 | 3550.00 | 20 | InGaN |
| White | ASMT-UWB1-ZX3A2 | 8000 | 1800.00 | 3550.00 | 20 | InGaN |
| White | ASMT-UWB1-ZX3B2 | 6500 | 1800.00 | 3550.00 | 20 | InGaN |
| White | ASMT-UWB1-ZX3C2 | 5700 | 1800.00 | 3550.00 | 20 | InGaN |
| White | ASMT-UWB1-ZX3D2 | 5000 | 1800.00 | 3550.00 | 20 | InGaN |
| White | ASMT-UWB1-ZX3E2 | 4500 | 1800.00 | 3550.00 | 20 | InGaN |
| White | ASMT-UWB1-ZX3F2 | 4000 | 1800.00 | 3550.00 | 20 | InGaN |
| White | ASMT-UWB1-ZX3G2 | 3500 | 1800.00 | 3550.00 | 20 | InGaN |
| White | ASMT-UWB1-ZX3H2 | 3000 | 1800.00 | 3550.00 | 20 | InGaN |
| White | ASMT-UWB1-ZX3J2 | 2700 | 1800.00 | 3550.00 | 20 | InGaN |
| White | ASMT-UWB1-ZAAB2 | 6500 | 2000.00 | 2500.00 | 20 | InGaN |
| White | ASMT-UWB1-ZAAC2 | 5700 | 2000.00 | 2500.00 | 20 | InGaN |
| White | ASMT-UWB1-ZAAD2 | 5000 | 2000.00 | 2500.00 | 20 | InGaN |
| White | ASMT-UWB1-ZAAF2 | 4000 | 2000.00 | 2500.00 | 20 | InGaN |
| White | ASMT-UWB1-ZAAH2 | 3000 | 2000.00 | 2500.00 | 20 | InGaN |
| White | ASMT-UWB1-ZX702 | 4500 ~ 8000 | 2240.00 | 4500.00 | 20 | InGaN |
| White | ASMT-UWB1-ZX7A2 | 8000 | 2240.00 | 4500.00 | 20 | InGaN |
| White | ASMT-UWB1-ZX7B2 | 6500 | 2240.00 | 4500.00 | 20 | InGaN |
| White | ASMT-UWB1-ZX7C2 | 5700 | 2240.00 | 4500.00 | 20 | InGaN |
| White | ASMT-UWB1-ZX7D2 | 5000 | 2240.00 | 4500.00 | 20 | InGaN |
| White | ASMT-UWB1-ZX7E2 | 4500 | 2240.00 | 4500.00 | 20 | InGaN |

Notes:

1. The luminous intensity IV, is measured at the mechanical axis of the lamp package. The actual peak of the spatial radiation pattern may not be aligned with this axis.
2. IV Tolerance = $\pm 12\%$

Part Numbering System**Table 2. Absolute Maximum Ratings ($T_A = 25\text{ }^\circ\text{C}$)**

| Parameters | Rating |
|-------------------------------------|---|
| DC Forward Current ^[1] | 30mA |
| Peak Forward Current ^[2] | 100mA |
| Power Dissipation | 108 mW |
| Junction Temperature | 110 $^\circ\text{C}$ |
| Operating Temperature | - 40 $^\circ\text{C}$ to + 85 $^\circ\text{C}$ |
| Storage Temperature | - 40 $^\circ\text{C}$ to + 100 $^\circ\text{C}$ |

Notes:

- Derate linearly as shown in derating curve.
- Duty Factor = 10%, Frequency = 1kHz. ommended.

Table 3. Optical Characteristics ($T_A = 25\text{ }^\circ\text{C}$)

| Color | Part Number | Dice Technology | Typ. Chromaticity Coordinates ⁽¹⁾ | | Viewing Angle | Luminous Efficiency | Total Flux / Luminous Intensity | CRI |
|-------|-------------|-----------------|--|------|--|---------------------|---------------------------------|------|
| | | | X | y | $2\theta_{\frac{1}{2}}$ ^[2] (Degrees) | η_e (lm/W) | θ_V (lm) / I_V (cd) | |
| | | | | | Typ. | Typ. | Typ. | Min. |
| White | ASMT-UWB1-Z | InGaN | 0.33 | 0.34 | 120 | 100 | 2.7 | 70 |

Notes:

- The chromaticity coordinates are derived from the CIE 1931 Chromaticity Diagram and represent the perceived color of the device
- $\theta_{\frac{1}{2}}$ is the off-axis angle where the luminous intensity is $\frac{1}{2}$ the peak intensity.

Table 4. Electrical Characteristics ($T_A = 25\text{ }^\circ\text{C}$)

| Color | Part Number | Forward Voltage | | Reverse Voltage | Thermal Resistance |
|-------|-------------|-------------------------------------|------|--|--|
| | | V_F (Volts) @ $I_F = 20\text{mA}$ | | V_R ⁽¹⁾ @ $10\mu\text{A}$ | |
| | | Min. | Max. | Min. | $R\theta_{J-P}$ ($^\circ\text{C/W}$) |
| White | ASMT-UWB1-Z | 2.8 | 3.6 | 5 | 150 |

Note:

- Reverse Voltage indicates product final test condition. Long term reverse bias is not recommended.

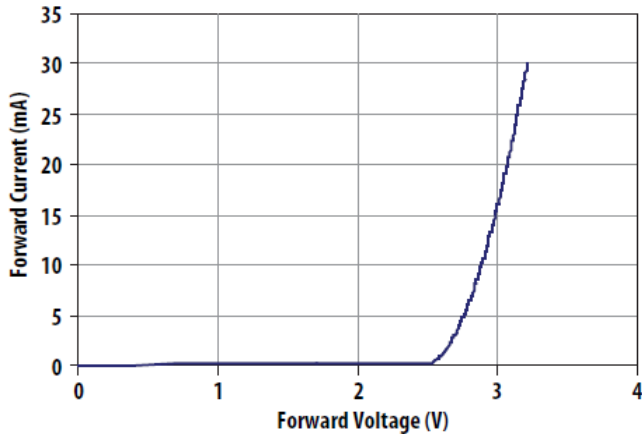


Figure 1. Forward Current Vs. Forward Voltage

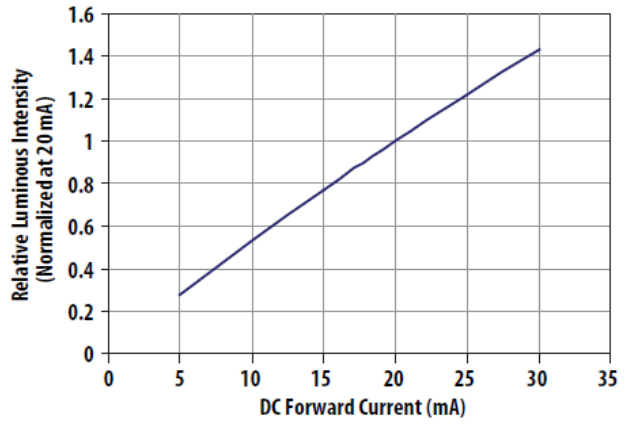


Figure 2. Relative Intensity Vs. Forward Current

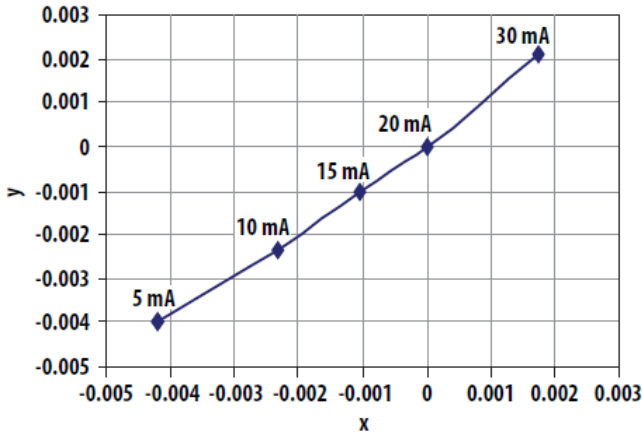


Figure 3. Chromaticity shift vs. current

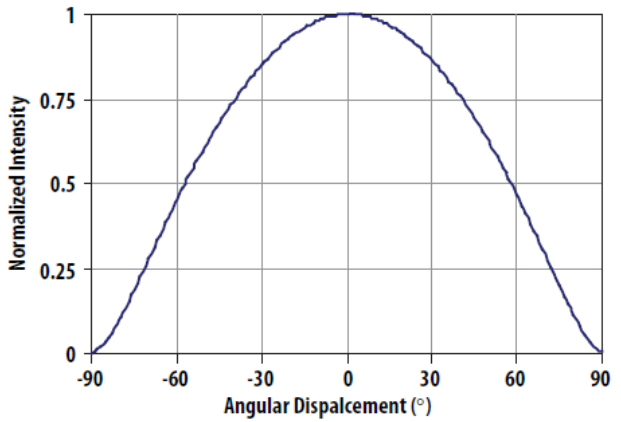


Figure 4. Radiation pattern

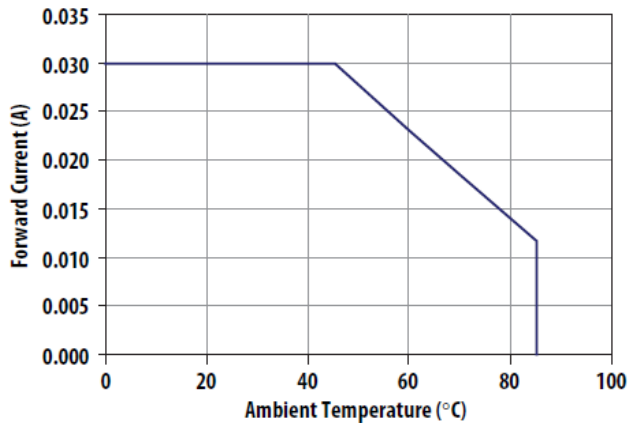


Figure 5. Maximum forward current vs. ambient temperature. Derated based on T_{jmax} 110°C, R_{thja} 600°C/W

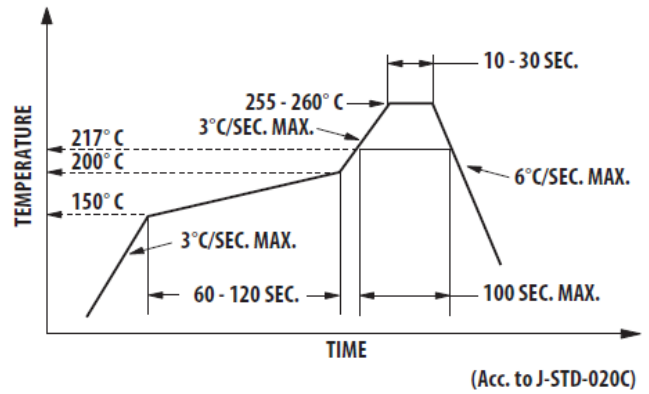


Figure 6. Recommended Pb-free reflow soldering profile (Acc. to J-STD-020C)

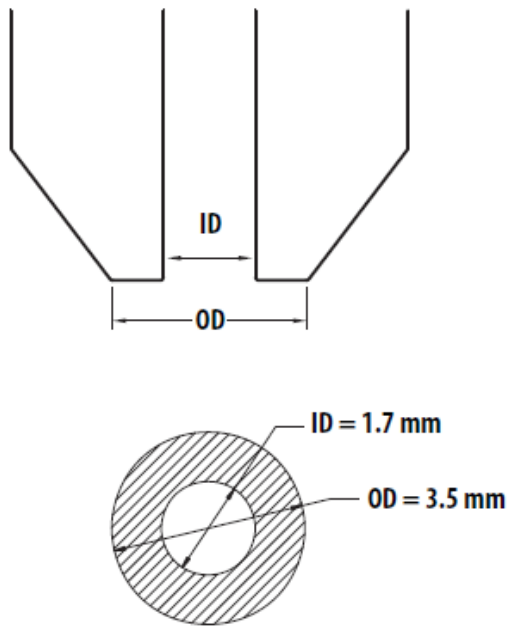


Figure 7. Recommended Pick and Place Nozzle Size

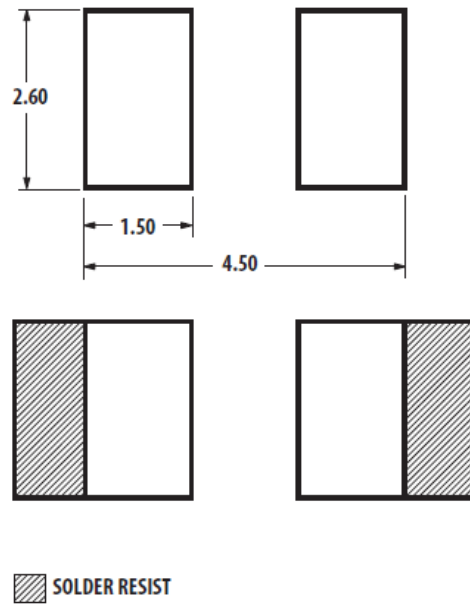


Figure 8. Recommended Soldering Pad Pattern

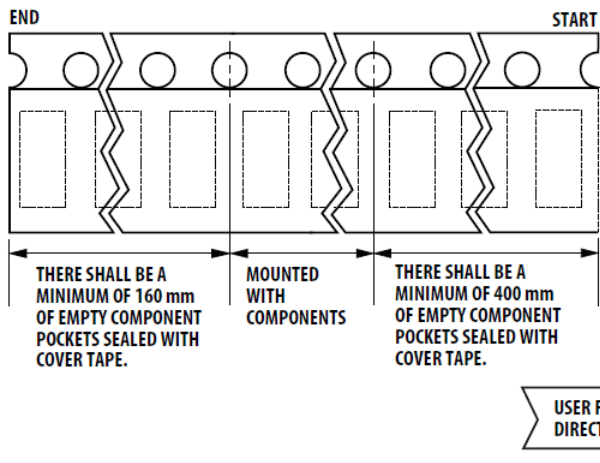


Figure 9. Tape Leader and Trailer Dimensions

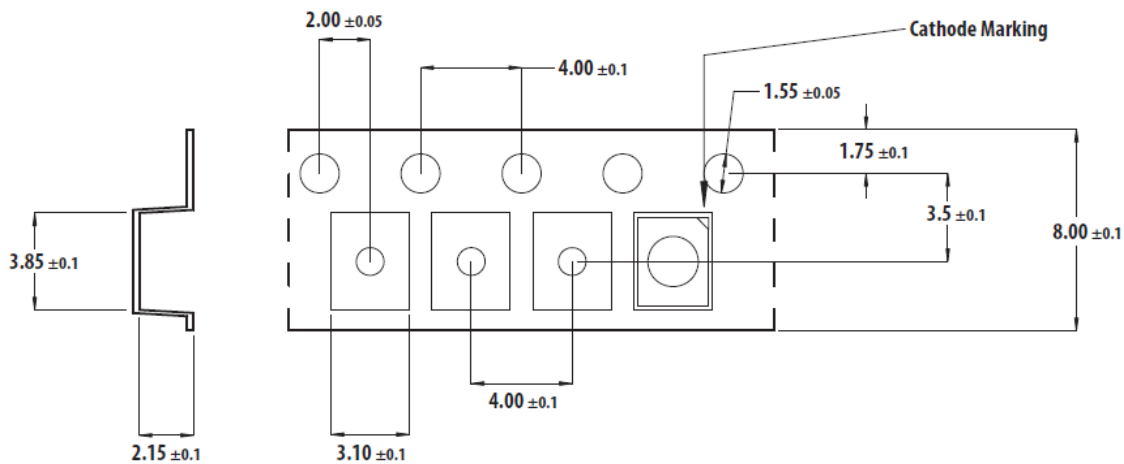


Figure 10. Tape Dimensions (Unit: mm)

Intensity Bin Select (X₂X₃)

Color Bin Select (X₄)

Individual reel will contain parts from one half bin only

| X₂ | Min I _v Bin |
|----------------------|--|
| X₃ | |
| 0 | Full Distribution |
| 3 | 3 half bins starting from X ₂ 1 |
| 4 | 4 half bins starting from X ₂ 1 |
| 5 | 2 half bins starting from X ₂ 1 |
| B | 1 half bins starting from X ₂ 2 |
| 6 | 2 half bins starting from X ₂ 2 |
| 7 | 3 half bins starting from X ₂ 2 |
| 8 | 4 half bins starting from X ₂ 2 |
| 9 | 2 half bins starting from X ₂ 2 |

Intensity Bin Limits

| Bin ID | Min. (mcd) | Max. (mcd) |
|---------------|-------------------|-------------------|
| X1 | 1800.00 | 2240.00 |
| X2 | 2240.00 | 2850.00 |
| Y1 | 2850.00 | 3550.00 |
| Y2 | 3550.00 | 4500.00 |
| Z1 | 4500.00 | 5600.00 |
| Z2 | 5600.00 | 7150.00 |
| AA | 2000.00 | 2500.00 |

Tolerance of each bin limit = ± 12%

Individual reel will contain parts from one full bin only.

| X₄ | |
|----------------------|---|
| Bin | Color Bin ID |
| A | 1A, 1B, 1C, 1D |
| B | 2A, 2B, 2C, 2D |
| C | 3A, 3B, 3C, 3D |
| D | 4A, 4B, 4C, 4D |
| E | 5A, 5B, 5C, 5D |
| F | 6A, 6B, 6C, 6D |
| G | 7A, 7B, 7C, 7D |
| H | 8A, 8B, 8C, 8D |
| J | 9A, 9B, 9C, 9D |
| K | 1A, 1B, 1C, 1D, 2A, 2B, 2C, 2D, |
| L | 2A, 2B, 2C, 2D, 3A, 3B, 3C, 3D |
| M | 3A, 3B, 3C, 3D, 4A, 4B, 4C, 4D |
| N | 4A, 4B, 4C, 4D, 5A, 5B, 5C, 5D |
| Q | 6A, 6B, 6C, 6D, 7A, 7B, 7C, 7D |
| R | 7A, 7B, 7C, 7D, 8A, 8B, 8C, 8D |
| S | 8A, 8B, 8C, 8D, 9A, 9B, 9C, 9D |
| 0 | 1A, 1B, 1C, 1D, 2A, 2B, 2C, 2D, 3A, 3B, 3C, 3D, 4A, 4B, 4C, 4D, 5A, 5B, 5C, 5D |
| 1 | 6A, 6B, 6C, 6D, 7A, 7B, 7C, 7D, 8A, 8B, 8C, 8D, 9A, 9B, 9C, 9D |

Colro Bin ID Limits

| Color | | | | | |
|---------------|---|--|--------|--------|--------|
| Bin ID | | Chromaticity Coordinates Limits | | | |
| 1A | x | 0.2950 | 0.2920 | 0.2984 | 0.3009 |
| | y | 0.2970 | 0.3060 | 0.3133 | 0.3042 |
| 1B | x | 0.2920 | 0.2895 | 0.2962 | 0.2984 |
| | y | 0.3060 | 0.3135 | 0.3220 | 0.3133 |
| 1C | x | 0.2984 | 0.2962 | 0.3028 | 0.3048 |
| | y | 0.3133 | 0.3220 | 0.3304 | 0.3207 |
| 1D | x | 0.2984 | 0.3048 | 0.3068 | 0.3009 |
| | y | 0.3133 | 0.3207 | 0.3113 | 0.3042 |
| 2A | x | 0.3048 | 0.3130 | 0.3144 | 0.3068 |
| | y | 0.3207 | 0.3290 | 0.3186 | 0.3113 |
| 2B | x | 0.3028 | 0.3115 | 0.3130 | 0.3048 |
| | y | 0.3304 | 0.3391 | 0.3290 | 0.3207 |
| 2C | x | 0.3115 | 0.3205 | 0.3213 | 0.3130 |
| | y | 0.3391 | 0.3481 | 0.3373 | 0.3290 |
| 2D | x | 0.3130 | 0.3213 | 0.3221 | 0.3144 |
| | y | 0.3290 | 0.3373 | 0.3261 | 0.3186 |
| 3A | x | 0.3215 | 0.3290 | 0.3290 | 0.3222 |
| | y | 0.3350 | 0.3417 | 0.3300 | 0.3243 |
| 3B | x | 0.3207 | 0.3290 | 0.3290 | 0.3215 |
| | y | 0.3462 | 0.3538 | 0.3417 | 0.3350 |
| 3C | x | 0.3290 | 0.3376 | 0.3371 | 0.3290 |
| | y | 0.3538 | 0.3616 | 0.3490 | 0.3417 |
| 3D | x | 0.3290 | 0.3371 | 0.3366 | 0.3290 |
| | y | 0.3417 | 0.3490 | 0.3369 | 0.3300 |
| 4A | x | 0.3371 | 0.3451 | 0.3440 | 0.3366 |
| | y | 0.3490 | 0.3554 | 0.3427 | 0.3369 |
| 4B | x | 0.3376 | 0.3463 | 0.3451 | 0.3371 |
| | y | 0.3616 | 0.3687 | 0.3554 | 0.349 |
| 4C | x | 0.3463 | 0.3551 | 0.3533 | 0.3451 |
| | y | 0.3687 | 0.3760 | 0.3620 | 0.3554 |
| 4D | x | 0.3451 | 0.3533 | 0.3515 | 0.3440 |
| | y | 0.3554 | 0.3620 | 0.3487 | 0.3427 |
| 5A | x | 0.3530 | 0.3615 | 0.3590 | 0.3512 |
| | y | 0.3597 | 0.3659 | 0.3521 | 0.3465 |
| 5B | x | 0.3548 | 0.3641 | 0.3615 | 0.3530 |
| | y | 0.3736 | 0.3804 | 0.3659 | 0.3597 |
| 5C | x | 0.3641 | 0.3736 | 0.3702 | 0.3615 |
| | y | 0.3804 | 0.3874 | 0.3722 | 0.3659 |
| 5D | x | 0.3615 | 0.3702 | 0.3670 | 0.3590 |
| | y | 0.3659 | 0.3722 | 0.3578 | 0.3521 |

Tolerance of each bin limit = ± 0.01

| Color | | | | | |
|---------------|---|--|--------|--------|--------|
| Bin ID | | Chromaticity Coordinates Limits | | | |
| 6A | x | 0.3670 | 0.3702 | 0.3825 | 0.3783 |
| | y | 0.3578 | 0.3722 | 0.3798 | 0.3646 |
| 6B | x | 0.3702 | 0.3736 | 0.3869 | 0.3825 |
| | y | 0.3722 | 0.3874 | 0.3958 | 0.3798 |
| 6C | x | 0.3825 | 0.3869 | 0.4006 | 0.3950 |
| | y | 0.3798 | 0.3958 | 0.4044 | 0.3875 |
| 6D | x | 0.3783 | 0.3825 | 0.3950 | 0.3898 |
| | y | 0.3646 | 0.3798 | 0.3875 | 0.3716 |
| 7A | x | 0.3889 | 0.3941 | 0.4080 | 0.4017 |
| | y | 0.3690 | 0.3848 | 0.3916 | 0.3751 |
| 7B | x | 0.3941 | 0.3996 | 0.4146 | 0.4080 |
| | y | 0.3848 | 0.4015 | 0.4089 | 0.3916 |
| 7C | x | 0.4080 | 0.4146 | 0.4299 | 0.4221 |
| | y | 0.3916 | 0.4089 | 0.4165 | 0.3984 |
| 7D | x | 0.4017 | 0.4080 | 0.4221 | 0.4147 |
| | y | 0.3751 | 0.3916 | 0.3984 | 0.3814 |
| 8A | x | 0.4147 | 0.4221 | 0.4342 | 0.4259 |
| | y | 0.3814 | 0.3984 | 0.4028 | 0.3853 |
| 8B | x | 0.4221 | 0.4299 | 0.443 | 0.4342 |
| | y | 0.3984 | 0.4165 | 0.4212 | 0.4028 |
| 8C | x | 0.4342 | 0.4430 | 0.4562 | 0.4465 |
| | y | 0.4028 | 0.4212 | 0.426 | 0.4071 |
| 8D | x | 0.4259 | 0.4342 | 0.4465 | 0.4373 |
| | y | 0.3853 | 0.4028 | 0.4071 | 0.3893 |
| 9A | x | 0.4373 | 0.4465 | 0.4582 | 0.4483 |
| | y | 0.3893 | 0.4071 | 0.4099 | 0.3919 |
| 9B | x | 0.4465 | 0.4562 | 0.4687 | 0.4582 |
| | y | 0.4071 | 0.4260 | 0.4289 | 0.4099 |
| 9C | x | 0.4582 | 0.4687 | 0.4813 | 0.4700 |
| | y | 0.4099 | 0.4289 | 0.4319 | 0.4126 |
| 9D | x | 0.4483 | 0.4582 | 0.4700 | 0.4593 |
| | y | 0.3919 | 0.4099 | 0.4126 | 0.3944 |

Tolerance of each bin limit = ± 0.01

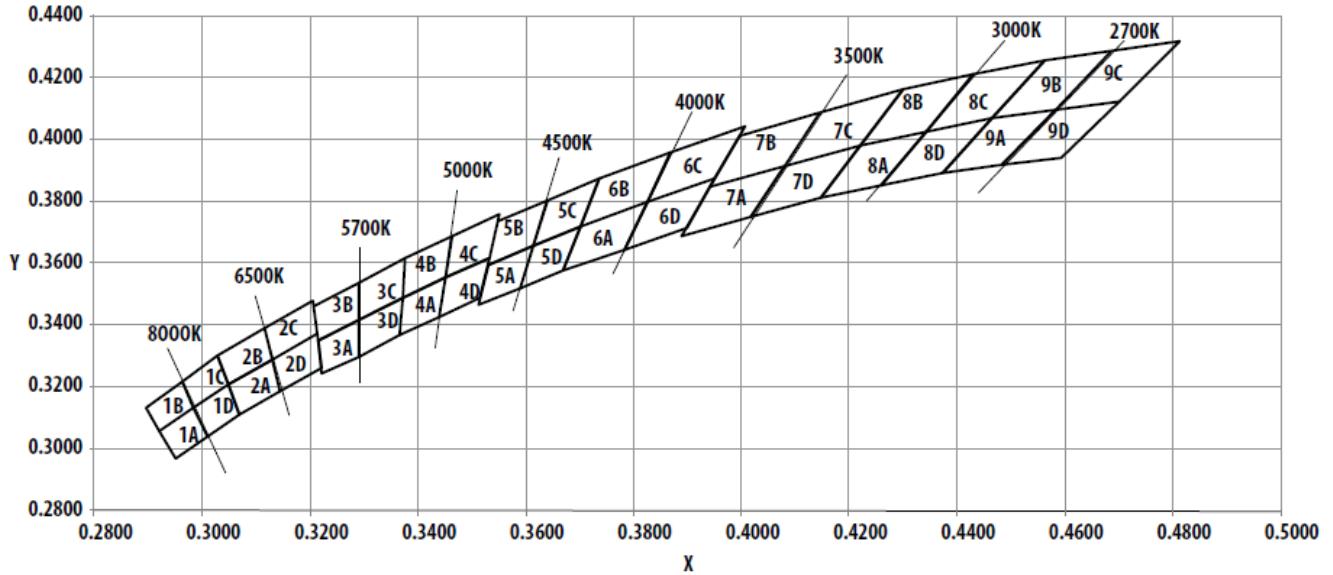


Figure 11. Color Bins

Packaging Option (X5)

| Option | Test Current | Package Type | Reel Size |
|--------|--------------|--------------|-----------|
| 2 | 20mA | Top Mount | 7 Inch |

Forward Voltage Bin

| Bin ID | Min | Max |
|--------|-----|-----|
| F05 | 2.8 | 3.0 |
| F06 | 3.0 | 3.2 |
| F07 | 3.2 | 3.4 |
| F08 | 3.4 | 3.6 |

Tolerance of each bin limit = ± 0.1 V

DISCLAIMER: Avago's products and software are not specifically designed, manufactured or authorized for sale as parts, components or assemblies for the planning, construction, maintenance or direct operation of a nuclear facility or for use in medical devices or applications. Customer is solely responsible, and waives all rights to make claims against avago or its suppliers, for all loss, damage, expense or liability in connection with such use.

For product information and a complete list of distributors, please go to our web site:
www.avagotech.com

Avago, Avago Technologies, and the A logo are trademarks of Avago Technologies in the United States and other countries.

Data subject to change. Copyright © 2005-2011 Avago Technologies. All rights reserved.

April 23, 2013

AVAGO
TECHNOLOGIES

OUR CERTIFICATE

DiGi provide top-quality products and perfect service for customer worldwide through standardization, technological innovation and continuous improvement. DiGi through third-party certification, we stricly control the quality of products and services. Welcome your RFQ to

Email: Info@DiGi-Electronics.com



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.