# Bridgelux® E Series E6 CA LED Array

**Product Data Sheet DS335**

# Introduction

E Series

The Bridgelux E Series LED array products deliver high quality light in a compact and cost-effective solid-state lighting package. These chip-on-board (COB) arrays can be efficiently driven at twice the nominal drive current, enabling design flexibility not previously possible. The E Series E6 CA is designed to support a wide range of luminaires and replacement lamps for both indoor and outdoor general lighting applications with highly competitive cost and good performance.

E Series E6 CA is available in a variety of electrical, CCT and CRI combinations providing substantial design flexibility and energy efficiencies.

Typical applications include replacement lamps, task, accent, spot, track, wide area, security, wall pack and down lights.

## Features

- Compact, high flux density light source
- Uniform, high quality illumination
- Streamlined thermal path
- ENERGY STAR® / ANSI compliant color binning structure with 2, 3 and 4 SDCM options
- Higher energy efficiency than incandescent, halogen and CFL lamps
- Industry standard DC voltage operation
- Instant light with unlimited dimming
- RoHS and REACH compliant

## Benefits

- Easy for secondary optics design
- Clean white light without pixilation
- Significantly reduced thermal resistance
- Easy for LED driver selection
- Easy to use with daylight and motion detectors to enable increased energy savings
- Reduced maintenance costs
- Environmentally friendly

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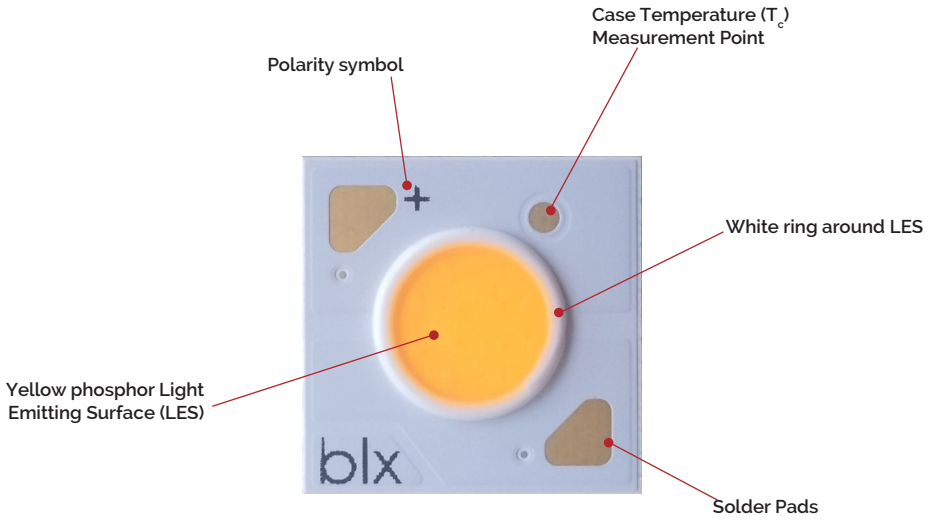
# Product Feature Map

Bridgelux arrays are fully engineered devices that provide consistent thermal and optical performance on an engineered mechanical platform.

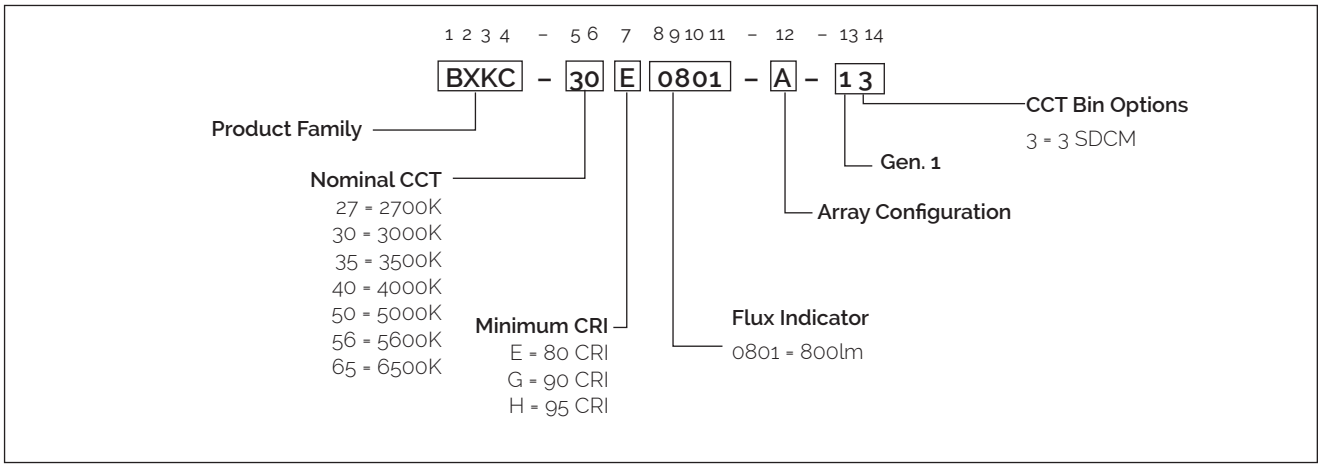
The arrays incorporate several features to simplify design integration and assembly.




Note: Part number and lot codes are scribed on back of array

## Product Nomenclature

The part number designation for Bridgelux E Series LED arrays is explained as follows:



# Product Selection Guide

**Table 1:** Selection Guide, Measurement Data (Tc=25˚C)

| Part Number | Nominal CCT[1] (K) | Typical CRI | Nominal Drive Current (mA) | Typical Pulsed Flux[2,3,4] Tc = 25°C (lm) | Minimum Pulsed Flux[2,4,5] Tc = 25°C (lm) | Typical Vf (V) | Typical Power (W) | Typical Efficacy (lm/W) |
|---|---|---|---|---|---|---|---|---|
| BXKC-27E0801-A-13 | 2700 | 82 | 100 | 502 | 437 | 35.5 | 3.6 | 141 |
| BXKC-27G0801-A-13 | 2700 | 92 | 100 | 412 | 358 | 35.5 | 3.6 | 116 |
| BXKC-27H0801-A-13 | 2700 | 96 | 100 | 400 | 348 | 35.5 | 3.6 | 113 |
| BXKC-30E0801-A-13 | 3000 | 82 | 100 | 530 | 461 | 35.5 | 3.6 | 149 |
| BXKC-30G0801-A-13 | 3000 | 92 | 100 | 432 | 376 | 35.5 | 3.6 | 122 |
| BXKC-30H0801-A-13 | 3000 | 96 | 100 | 410 | 357 | 35.5 | 3.6 | 115 |
| BXKC-35E0801-A-13 | 3500 | 82 | 100 | 542 | 472 | 35.5 | 3.6 | 153 |
| BXKC-35G0801-A-13 | 3500 | 92 | 100 | 443 | 385 | 35.5 | 3.6 | 125 |
| BXKC-35H0801-A-13 | 3500 | 96 | 100 | 435 | 378 | 35.5 | 3.6 | 123 |
| BXKC-40E0801-A-13 | 4000 | 82 | 100 | 547 | 476 | 35.5 | 3.6 | 154 |
| BXKC-40G0801-A-13 | 4000 | 92 | 100 | 459 | 399 | 35.5 | 3.6 | 129 |
| BXKC-40H0801-A-13 | 4000 | 96 | 100 | 445 | 387 | 35.5 | 3.6 | 125 |
| BXKC-50E0801-A-14 | 5000 | 81.5 | 100 | 563 | 490 | 35.5 | 3.6 | 159 |
| BXKC-50G0801-A-14 | 5000 | 91 | 100 | 470 | 409 | 35.5 | 3.6 | 132 |
| BXKC-56E0801-A-14 | 5600 | 81.5 | 100 | 563 | 490 | 35.5 | 3.6 | 159 |
| BXKC-65E0801-A-14 | 6500 | 81.5 | 100 | 563 | 490 | 35.5 | 3.6 | 159 |
| BXKC-27E0801-B-13 | 2700 | 82 | 200 | 502 | 437 | 17.8 | 3.6 | 141 |
| BXKC-27G0801-B-13 | 2700 | 92 | 200 | 412 | 358 | 17.8 | 3.6 | 116 |
| BXKC-27H0801-B-13 | 2700 | 96 | 200 | 400 | 348 | 17.8 | 3.6 | 112 |
| BXKC-30E0801-B-13 | 3000 | 82 | 200 | 530 | 461 | 17.8 | 3.6 | 149 |
| BXKC-30G0801-B-13 | 3000 | 92 | 200 | 432 | 376 | 17.8 | 3.6 | 122 |
| BXKC-30H0801-B-13 | 3000 | 96 | 200 | 410 | 357 | 17.8 | 3.6 | 115 |
| BXKC-35E0801-B-13 | 3500 | 82 | 200 | 542 | 472 | 17.8 | 3.6 | 153 |
| BXKC-35G0801-B-13 | 3500 | 92 | 200 | 443 | 385 | 17.8 | 3.6 | 125 |
| BXKC-35H0801-B-13 | 3500 | 96 | 200 | 435 | 378 | 17.8 | 3.6 | 122 |
| BXKC-40E0801-B-13 | 4000 | 82 | 200 | 547 | 476 | 17.8 | 3.6 | 154 |
| BXKC-40G0801-B-13 | 4000 | 92 | 200 | 459 | 399 | 17.8 | 3.6 | 129 |
| BXKC-40H0801-B-13 | 4000 | 96 | 200 | 445 | 387 | 17.8 | 3.6 | 125 |
| BXKC-50E0801-B-14 | 5000 | 81.5 | 200 | 563 | 490 | 17.8 | 3.6 | 159 |
| BXKC-50G0801-B-14 | 5000 | 91 | 200 | 470 | 409 | 17.8 | 3.6 | 132 |
| BXKC-56E0801-B-14 | 5600 | 81.5 | 200 | 563 | 490 | 17.8 | 3.6 | 159 |

Notes for Table 1:

1. Nominal CCT as defined by ANSI C78.377-2011.
2. Products tested under pulsed condition (10ms pulse width) at nominal test current where Tj (junction temperature) = Tc (case temperature) = 25˚C.
3. Typical performance values are provided as a reference only and are not a guarantee of performance.
4. Bridgelux maintains a ±7% tolerance on flux measurements.
5. Minimum flux values at the nominal test current are guaranteed by 100% test.

# Product Selection Guide

**Table 1:** Selection Guide, Measurement Data (Tc=25˚C)

| Part Number | Nominal CCT[1] (K) | Typical CRI | Nominal Drive Current (mA) | Typical Pulsed Flux[2,3,4] Tc = 25°C (lm) | Minimum Pulsed Flux[2,4,5] Tc = 25°C (lm) | Typical Vf (V) | Typical Power (W) | Typical Efficacy (lm/W) |
|---|---|---|---|---|---|---|---|---|
| BXKC-65E0801-B-14 | 6500 | 81.5 | 200 | 563 | 490 | 17.8 | 3.6 | 159 |
| BXKC-27E0801-D-13 | 2700 | 82 | 400 | 502 | 437 | 8.9 | 3.6 | 141 |
| BXKC-27G0801-D-13 | 2700 | 92 | 400 | 412 | 358 | 8.9 | 3.6 | 116 |
| BXKC-30E0801-D-13 | 3000 | 82 | 400 | 530 | 461 | 8.9 | 3.6 | 149 |
| BXKC-30G0801-D-13 | 3000 | 92 | 400 | 432 | 376 | 8.9 | 3.6 | 122 |
| BXKC-35E0801-D-13 | 3500 | 82 | 400 | 542 | 472 | 8.9 | 3.6 | 153 |
| BXKC-35G0801-D-13 | 3500 | 92 | 400 | 443 | 385 | 8.9 | 3.6 | 125 |
| BXKC-40E0801-D-13 | 4000 | 82 | 400 | 547 | 476 | 8.9 | 3.6 | 154 |
| BXKC-40G0801-D-13 | 4000 | 92 | 400 | 459 | 399 | 8.9 | 3.6 | 129 |
| BXKC-50E0801-D-14 | 5000 | 81.5 | 400 | 563 | 490 | 8.9 | 3.6 | 159 |
| BXKC-50G0801-D-14 | 5000 | 91 | 400 | 470 | 409 | 8.9 | 3.6 | 132 |
| BXKC-56E0801-D-14 | 5600 | 81.5 | 400 | 563 | 490 | 8.9 | 3.6 | 159 |
| BXKC-65E0801-D-14 | 6500 | 81.5 | 400 | 563 | 490 | 8.9 | 3.6 | 159 |

Notes for Table 1:

1. Nominal CCT as defined by ANSI C78.377-2011.
2. Products tested under pulsed condition (10ms pulse width) at nominal test current where Tj (junction temperature) = Tc (case temperature) = 25˚C.
3. Typical performance values are provided as a reference only and are not a guarantee of performance.
4. Bridgelux maintains a ±7% tolerance on flux measurements.
5. Minimum flux values at the nominal test current are guaranteed by 100% test.

# Product Selection Guide

**Table 2:** Selection Guide, Measurement Data (Tc=85˚C)

| Part Number | Nominal CCT[1] (K) | Minumum CRI | Typical CRI | Nominal Drive Current (mA) | Typical DC Flux[2,3] Tc = 85°C (lm) | Minimum DC Flux[4] Tc = 85°C (lm) | Typical Vf (V) | Typical Power (W) | Typical Efficacy (lm/W) |
|---|---|---|---|---|---|---|---|---|---|
| BXKC-27E0801-A-13 | 2700 | 80 | 82 | 100 | 445 | 387 | 34.9 | 3.5 | 128 |
| BXKC-27G0801-A-13 | 2700 | 90 | 92 | 100 | 365 | 318 | 34.9 | 3.5 | 105 |
| BXKC-27H0801-A-13 | 2700 | 95 | 96 | 100 | 355 | 309 | 34.9 | 3.5 | 102 |
| BXKC-30E0801-A-13 | 3000 | 80 | 82 | 100 | 470 | 409 | 34.9 | 3.5 | 135 |
| BXKC-30G0801-A-13 | 3000 | 90 | 92 | 100 | 383 | 333 | 34.9 | 3.5 | 110 |
| BXKC-30H0801-A-13 | 3000 | 95 | 96 | 100 | 363 | 316 | 34.9 | 3.5 | 104 |
| BXKC-35E0801-A-13 | 3500 | 80 | 82 | 100 | 481 | 418 | 34.9 | 3.5 | 138 |
| BXKC-35G0801-A-13 | 3500 | 90 | 92 | 100 | 393 | 342 | 34.9 | 3.5 | 113 |
| BXKC-35H0801-A-13 | 3500 | 95 | 96 | 100 | 386 | 336 | 34.9 | 3.5 | 111 |
| BXKC-40E0801-A-13 | 4000 | 80 | 82 | 100 | 485 | 422 | 34.9 | 3.5 | 139 |
| BXKC-40G0801-A-13 | 4000 | 90 | 92 | 100 | 407 | 354 | 34.9 | 3.5 | 117 |
| BXKC-40H0801-A-13 | 4000 | 95 | 96 | 100 | 395 | 343 | 34.9 | 3.5 | 113 |
| BXKC-50E0801-A-14 | 5000 | 80 | 81.5 | 100 | 499 | 434 | 34.9 | 3.5 | 143 |
| BXKC-50G0801-A-14 | 5000 | 90 | 91 | 100 | 417 | 363 | 34.9 | 3.5 | 120 |
| BXKC-56E0801-A-14 | 5600 | 80 | 81.5 | 100 | 499 | 434 | 34.9 | 3.5 | 143 |
| BXKC-65E0801-A-14 | 6500 | 80 | 81.5 | 100 | 499 | 434 | 34.9 | 3.5 | 143 |
| BXKC-27E0801-B-13 | 2700 | 80 | 82 | 200 | 445 | 387 | 17.4 | 3.5 | 128 |
| BXKC-27G0801-B-13 | 2700 | 90 | 92 | 200 | 365 | 318 | 17.4 | 3.5 | 105 |
| BXKC-27H0801-B-13 | 2700 | 95 | 96 | 200 | 355 | 309 | 17.5 | 3.5 | 101 |
| BXKC-30E0801-B-13 | 3000 | 80 | 82 | 200 | 470 | 409 | 17.4 | 3.5 | 135 |
| BXKC-30G0801-B-13 | 3000 | 90 | 92 | 200 | 383 | 333 | 17.4 | 3.5 | 110 |
| BXKC-30H0801-B-13 | 3000 | 95 | 96 | 200 | 363 | 316 | 17.5 | 3.5 | 104 |
| BXKC-35E0801-B-13 | 3500 | 80 | 82 | 200 | 481 | 418 | 17.4 | 3.5 | 138 |
| BXKC-35G0801-B-13 | 3500 | 90 | 92 | 200 | 393 | 342 | 17.4 | 3.5 | 113 |
| BXKC-35H0801-B-13 | 3500 | 95 | 96 | 200 | 386 | 336 | 17.5 | 3.5 | 110 |
| BXKC-40E0801-B-13 | 4000 | 80 | 82 | 200 | 485 | 422 | 17.4 | 3.5 | 139 |
| BXKC-40G0801-B-13 | 4000 | 90 | 92 | 200 | 407 | 354 | 17.4 | 3.5 | 117 |
| BXKC-40H0801-B-13 | 4000 | 95 | 96 | 200 | 395 | 343 | 17.5 | 3.5 | 113 |
| BXKC-50E0801-B-14 | 5000 | 80 | 81.5 | 200 | 499 | 434 | 17.4 | 3.5 | 143 |
| BXKC-50G0801-B-14 | 5000 | 90 | 91 | 200 | 417 | 363 | 17.4 | 3.5 | 120 |
| BXKC-56E0801-B-14 | 5600 | 80 | 81.5 | 200 | 499 | 434 | 17.4 | 3.5 | 143 |

Notes for Table 2:

1. Nominal CCT as defined by ANSI C78.377-2011.
2. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.
3. Typical performance is estimated based on operation under DC (direct current) with LED array mounted onto a heat sink with thermal interface material and the case temperature maintained at 85˚C. Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.
4. Minimum flux values at elevated temperatures are provided for reference only and are not guaranteed by 100% production testing. Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.

# Product Selection Guide

**Table 2:** Selection Guide, Measurement Data (Tc=85˚C)

| Part Number | Nominal CCT[1] (K) | Minumum CRI | Typical CRI | Nominal Drive Current (mA) | Typical DC Flux[2,3] Tc = 85°C (lm) | Minimum DC Flux[4] Tc = 85°C (lm) | Typical Vf (V) | Typical Power (W) | Typical Efficacy (lm/W) |
|---|---|---|---|---|---|---|---|---|---|
| BXKC-65E0801-B-14 | 6500 | 80 | 81.5 | 200 | 499 | 434 | 17.4 | 3.5 | 143 |
| BXKC-27E0801-D-13 | 2700 | 80 | 82 | 400 | 445 | 387 | 8.7 | 3.5 | 128 |
| BXKC-27G0801-D-13 | 2700 | 90 | 92 | 400 | 365 | 318 | 8.7 | 3.5 | 105 |
| BXKC-30E0801-D-13 | 3000 | 80 | 82 | 400 | 470 | 409 | 8.7 | 3.5 | 135 |
| BXKC-30G0801-D-13 | 3000 | 90 | 92 | 400 | 383 | 333 | 8.7 | 3.5 | 110 |
| BXKC-35E0801-D-13 | 3500 | 80 | 82 | 400 | 481 | 418 | 8.7 | 3.5 | 138 |
| BXKC-35G0801-D-13 | 3500 | 90 | 92 | 400 | 393 | 342 | 8.7 | 3.5 | 113 |
| BXKC-40E0801-D-13 | 4000 | 80 | 82 | 400 | 485 | 422 | 8.7 | 3.5 | 139 |
| BXKC-40G0801-D-13 | 4000 | 90 | 92 | 400 | 407 | 354 | 8.7 | 3.5 | 117 |
| BXKC-50E0801-D-14 | 5000 | 80 | 81.5 | 400 | 499 | 434 | 8.7 | 3.5 | 143 |
| BXKC-50G0801-D-14 | 5000 | 90 | 91 | 400 | 417 | 363 | 8.7 | 3.5 | 120 |
| BXKC-56E0801-D-14 | 5600 | 80 | 81.5 | 400 | 499 | 434 | 8.7 | 3.5 | 143 |
| BXKC-65E0801-D-14 | 6500 | 80 | 81.5 | 400 | 499 | 434 | 8.7 | 3.5 | 143 |

Notes for Table 2:

1. Nominal CCT as defined by ANSI C78.377-2011.
2. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.
3. Typical performance is estimated based on operation under DC (direct current) with LED array mounted onto a heat sink with thermal interface material and the case temperature maintained at 85˚C. Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.
4. Minimum flux values at elevated temperatures are provided for reference only and are not guaranteed by 100% production testing. Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.

# Performance at Commonly Used Drive Currents

E Series LED arrays are tested to the specifications shown using the nominal drive currents in Table 1. E Series may also be driven at other drive currents dependent on specific application design requirements. The performance at any drive current can be derived from the current vs. voltage characteristics shown in Figures 1, 2 and 3 and the flux vs. current aracteristics shown in Figures 4, 5 and 6. The performance at commonly used drive currents is summarized in Table 3.

**Table 3:** Product Performance at Commonly Used Drive Currents

| Part Number | Minimum CRI | Drive Current[1] (mA) | Typical Vf Tc = 25°C (V) | Typical Power[2] Tc = 25°C (W) | Typical Pulsed Flux[2] Tc = 25°C (lm) | Typical DC Flux[2] Tc = 85°C (lm) | Typical Efficacy[2] Tc = 25°C (lm/W) |
|---|---|---|---|---|---|---|---|
| BXKC-27E0801-A-13 | 80 | 25 | 31.6 | 0.8 | 137 | 127 | 173 |
| | | 50 | 33.1 | 1.7 | 268 | 243 | 162 |
| | | **100** | **35.5** | **3.6** | **502** | **445** | **141** |
| | | 150 | 37.7 | 5.7 | 712 | 619 | 126 |
| | | 200 | 39.8 | 8.0 | 892 | 767 | 112 |
| | | 240 | 41.4 | 9.9 | 1026 | 866 | 103 |
| BXKC-27G0801-A-13 | 90 | 25 | 31.6 | 0.8 | 112 | 104 | 142 |
| | | 50 | 33.1 | 1.7 | 220 | 199 | 133 |
| | | **100** | **35.5** | **3.6** | **412** | **365** | **116** |
| | | 150 | 37.7 | 5.7 | 584 | 508 | 103 |
| | | 200 | 39.8 | 8.0 | 732 | 630 | 92 |
| | | 240 | 41.4 | 9.9 | 842 | 711 | 85 |
| BXKC-27H0801-A-13 | 95 | 25 | 31.6 | 0.8 | 109 | 101 | 138 |
| | | 50 | 33.1 | 1.7 | 213 | 193 | 129 |
| | | **100** | **35.5** | **3.6** | **400** | **355** | **113** |
| | | 150 | 37.7 | 5.7 | 567 | 493 | 100 |
| | | 200 | 39.8 | 8.0 | 711 | 611 | 89 |
| | | 240 | 41.4 | 9.9 | 817 | 690 | 82 |
| BXKC-30E0801-A-13 | 80 | 25 | 31.6 | 0.8 | 144 | 134 | 183 |
| | | 50 | 33.1 | 1.7 | 282 | 256 | 171 |
| | | **100** | **35.5** | **3.6** | **530** | **470** | **149** |
| | | 150 | 37.7 | 5.7 | 752 | 654 | 133 |
| | | 200 | 39.8 | 8.0 | 941 | 810 | 118 |
| | | 240 | 41.4 | 9.9 | 1083 | 915 | 109 |
| BXKC-30G0801-A-13 | 90 | 25 | 31.6 | 0.8 | 118 | 109 | 149 |
| | | 50 | 33.1 | 1.7 | 230 | 209 | 139 |
| | | **100** | **35.5** | **3.6** | **432** | **383** | **122** |
| | | 150 | 37.7 | 5.7 | 613 | 533 | 108 |
| | | 200 | 39.8 | 8.0 | 767 | 660 | 96 |
| | | 240 | 41.4 | 9.9 | 883 | 746 | 89 |

Notes for Table 3:

1. Alternate drive currents are provided for reference only and are not a guarantee of performance.
2. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

# Performance at Commonly Used Drive Currents

**Table 3:** Product Performance at Commonly Used Drive Currents

| Part Number | Minimum CRI | Drive Current[1] (mA) | Typical Vf Tc = 25°C (V) | Typical Power[2] Tc = 25°C (W) | Typical Pulsed Flux[2] Tc = 25°C (lm) | Typical DC Flux[2] Tc = 85°C (lm) | Typical Efficacy[2] Tc = 25°C (lm/W) |
|---|---|---|---|---|---|---|---|
| BXKC-30H0801-A-13 | 95 | 25 | 31.6 | 0.8 | 112 | 103 | 141 |
| | | 50 | 33.1 | 1.7 | 219 | 198 | 132 |
| | | **100** | **35.5** | **3.6** | **410** | **363** | **115** |
| | | 150 | 37.7 | 5.7 | 582 | 506 | 103 |
| | | 200 | 39.8 | 8.0 | 728 | 627 | 91 |
| | | 240 | 41.4 | 9.9 | 838 | 708 | 84 |
| BXKC-35E0801-A-13 | 80 | 25 | 31.6 | 0.8 | 148 | 137 | 187 |
| | | 50 | 33.1 | 1.7 | 289 | 262 | 175 |
| | | **100** | **35.5** | **3.6** | **542** | **481** | **153** |
| | | 150 | 37.7 | 5.7 | 769 | 669 | 136 |
| | | 200 | 39.8 | 8.0 | 963 | 828 | 121 |
| | | 240 | 41.4 | 9.9 | 1107 | 936 | 111 |
| BXKC-35G0801-A-13 | 90 | 25 | 31.6 | 0.8 | 121 | 112 | 153 |
| | | 50 | 33.1 | 1.7 | 236 | 214 | 143 |
| | | **100** | **35.5** | **3.6** | **443** | **393** | **125** |
| | | 150 | 37.7 | 5.7 | 628 | 546 | 111 |
| | | 200 | 39.8 | 8.0 | 787 | 677 | 99 |
| | | 240 | 41.4 | 9.9 | 905 | 765 | 91 |
| BXKC-35H0801-A-13 | 95 | 25 | 31.6 | 0.8 | 119 | 110 | 150 |
| | | 50 | 33.1 | 1.7 | 232 | 210 | 140 |
| | | **100** | **35.5** | **3.6** | **435** | **386** | **123** |
| | | 150 | 37.7 | 5.7 | 617 | 537 | 109 |
| | | 200 | 39.8 | 8.0 | 773 | 665 | 97 |
| | | 240 | 41.4 | 9.9 | 889 | 751 | 89 |
| BXKC-40E0801-A-13 | 80 | 25 | 31.6 | 0.8 | 149 | 138 | 189 |
| | | 50 | 33.1 | 1.7 | 292 | 265 | 176 |
| | | **100** | **35.5** | **3.6** | **547** | **485** | **154** |
| | | 150 | 37.7 | 5.7 | 776 | 675 | 137 |
| | | 200 | 39.8 | 8.0 | 972 | 836 | 122 |
| | | 240 | 41.4 | 9.9 | 1118 | 944 | 112 |
| BXKC-40G0801-A-13 | 90 | 25 | 31.6 | 0.8 | 125 | 116 | 158 |
| | | 50 | 33.1 | 1.7 | 245 | 222 | 148 |
| | | **100** | **35.5** | **3.6** | **459** | **407** | **129** |
| | | 150 | 37.7 | 5.7 | 651 | 566 | 115 |
| | | 200 | 39.8 | 8.0 | 815 | 702 | 102 |
| | | 240 | 41.4 | 9.9 | 938 | 792 | 94 |

Notes for Table 3:

1. Alternate drive currents are provided for reference only and are not a guarantee of performance.
2. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

# Performance at Commonly Used Drive Currents

**Table 3:** Product Performance at Commonly Used Drive Currents

| Part Number | Minimum CRI | Drive Current[1] (mA) | Typical Vf Tc = 25°C (V) | Typical Power[2] Tc = 25°C (W) | Typical Pulsed Flux[2] Tc = 25°C (lm) | Typical DC Flux[2] Tc = 85°C (lm) | Typical Efficacy[2] Tc = 25°C (lm/W) |
|---|---|---|---|---|---|---|---|
| BXKC-40H0801-A-13 | 95 | 25 | 31.6 | 0.8 | 121 | 112 | 153 |
| | | 50 | 33.1 | 1.7 | 237 | 215 | 144 |
| | | **100** | **35.5** | **3.6** | **445** | **395** | **125** |
| | | 150 | 37.7 | 5.7 | 631 | 549 | 111 |
| | | 200 | 39.8 | 8.0 | 791 | 680 | 99 |
| | | 240 | 41.4 | 9.9 | 909 | 768 | 91 |
| BXKC-50E0801-A-14 | 80 | 25 | 31.6 | 0.8 | 153 | 142 | 194 |
| | | 50 | 33.1 | 1.7 | 300 | 272 | 182 |
| | | **100** | **35.5** | **3.6** | **563** | **499** | **159** |
| | | 150 | 37.7 | 5.7 | 799 | 695 | 141 |
| | | 200 | 39.8 | 8.0 | 1000 | 861 | 126 |
| | | 240 | 41.4 | 9.9 | 1150 | 972 | 116 |
| BXKC-50G0801-A-14 | 90 | 25 | 31.6 | 0.8 | 128 | 118 | 162 |
| | | 50 | 33.1 | 1.7 | 250 | 227 | 152 |
| | | **100** | **35.5** | **3.6** | **470** | **417** | **132** |
| | | 150 | 37.7 | 5.7 | 667 | 580 | 118 |
| | | 200 | 39.8 | 8.0 | 835 | 718 | 105 |
| | | 240 | 41.4 | 9.9 | 960 | 811 | 97 |
| BXKC-56E0801-A-14 | 80 | 25 | 31.6 | 0.8 | 153 | 142 | 194 |
| | | 50 | 33.1 | 1.7 | 300 | 272 | 182 |
| | | **100** | **35.5** | **3.6** | **563** | **499** | **159** |
| | | 150 | 37.7 | 5.7 | 799 | 695 | 141 |
| | | 200 | 39.8 | 8.0 | 1000 | 861 | 126 |
| | | 240 | 41.4 | 9.9 | 1150 | 972 | 116 |
| BXKC-65E0801-A-14 | 80 | 25 | 31.6 | 0.8 | 153 | 142 | 194 |
| | | 50 | 33.1 | 1.7 | 300 | 272 | 182 |
| | | **100** | **35.5** | **3.6** | **563** | **499** | **159** |
| | | 150 | 37.7 | 5.7 | 799 | 695 | 141 |
| | | 200 | 39.8 | 8.0 | 1000 | 861 | 126 |
| | | 240 | 41.4 | 9.9 | 1150 | 972 | 116 |
| BXKC-27E0801-B-13 | 80 | 50 | 15.8 | 0.8 | 137 | 127 | 173 |
| | | 100 | 16.5 | 1.7 | 268 | 243 | 162 |
| | | **200** | **17.8** | **3.6** | **502** | **445** | **141** |
| | | 300 | 18.9 | 5.7 | 712 | 619 | 126 |
| | | 400 | 19.9 | 8.0 | 892 | 767 | 112 |
| | | 480 | 20.7 | 9.9 | 1026 | 866 | 103 |

Notes for Table 3:

1. Alternate drive currents are provided for reference only and are not a guarantee of performance.
2. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

# Performance at Commonly Used Drive Currents

**Table 3:** Product Performance at Commonly Used Drive Currents

| Part Number | Minimum CRI | Drive Current[1] (mA) | Typical Vf Tc = 25°C (V) | Typical Power[2] Tc = 25°C (W) | Typical Pulsed Flux[2] Tc = 25°C (lm) | Typical DC Flux[2] Tc = 85°C (lm) | Typical Efficacy[2] Tc = 25°C (lm/W) |
|---|---|---|---|---|---|---|---|
| BXKC-27G0801-B-13 | 90 | 50 | 15.8 | 0.8 | 112 | 104 | 142 |
| | | 100 | 16.5 | 1.7 | 220 | 199 | 133 |
| | | **200** | **17.8** | **3.6** | **412** | **365** | **116** |
| | | 300 | 18.9 | 5.7 | 584 | 508 | 103 |
| | | 400 | 19.9 | 8.0 | 732 | 630 | 92 |
| | | 480 | 20.7 | 9.9 | 842 | 711 | 85 |
| BXKC-27H0801-B-13 | 95 | 50 | 15.8 | 0.8 | 109 | 101 | 138 |
| | | 100 | 16.5 | 1.7 | 213 | 193 | 129 |
| | | **200** | **17.8** | **3.6** | **400** | **355** | **113** |
| | | 300 | 18.9 | 5.7 | 567 | 493 | 100 |
| | | 400 | 19.9 | 8.0 | 711 | 611 | 89 |
| | | 480 | 20.7 | 9.9 | 817 | 690 | 82 |
| BXKC-30E0801-B-13 | 80 | 50 | 15.8 | 0.8 | 144 | 134 | 183 |
| | | 100 | 16.5 | 1.7 | 282 | 256 | 171 |
| | | **200** | **17.8** | **3.6** | **530** | **470** | **149** |
| | | 300 | 18.9 | 5.7 | 752 | 654 | 133 |
| | | 400 | 19.9 | 8.0 | 941 | 810 | 118 |
| | | 480 | 20.7 | 9.9 | 1083 | 915 | 109 |
| BXKC-30G0801-B-13 | 90 | 50 | 15.8 | 0.8 | 118 | 109 | 149 |
| | | 100 | 16.5 | 1.7 | 230 | 209 | 139 |
| | | **200** | **17.8** | **3.6** | **432** | **383** | **122** |
| | | 300 | 18.9 | 5.7 | 613 | 533 | 108 |
| | | 400 | 19.9 | 8.0 | 767 | 660 | 96 |
| | | 480 | 20.7 | 9.9 | 883 | 746 | 89 |
| BXKC-30H0801-B-13 | 95 | 50 | 15.8 | 0.8 | 112 | 103 | 141 |
| | | 100 | 16.5 | 1.7 | 219 | 198 | 132 |
| | | **200** | **17.8** | **3.6** | **410** | **363** | **115** |
| | | 300 | 18.9 | 5.7 | 582 | 506 | 103 |
| | | 400 | 19.9 | 8.0 | 728 | 627 | 91 |
| | | 480 | 20.7 | 9.9 | 838 | 708 | 84 |
| BXKC-35E0801-B-13 | 80 | 50 | 15.8 | 0.8 | 148 | 137 | 187 |
| | | 100 | 16.5 | 1.7 | 289 | 262 | 175 |
| | | **200** | **17.8** | **3.6** | **542** | **481** | **153** |
| | | 300 | 18.9 | 5.7 | 769 | 669 | 136 |
| | | 400 | 19.9 | 8.0 | 963 | 828 | 121 |
| | | 480 | 20.7 | 9.9 | 1107 | 936 | 111 |

Notes for Table 3:

1. Alternate drive currents are provided for reference only and are not a guarantee of performance.
2. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

# Performance at Commonly Used Drive Currents

**Table 3:** Product Performance at Commonly Used Drive Currents

| Part Number | Minimum CRI | Drive Current[1] (mA) | Typical Vf Tc = 25°C (V) | Typical Power[2] Tc = 25°C (W) | Typical Pulsed Flux[2] Tc = 25°C (lm) | Typical DC Flux[2] Tc = 85°C (lm) | Typical Efficacy[2] Tc = 25°C (lm/W) |
|---|---|---|---|---|---|---|---|
| BXKC-35G0801-B-13 | 90 | 50 | 15.8 | 0.8 | 121 | 112 | 153 |
| | | 100 | 16.5 | 1.7 | 236 | 214 | 143 |
| | | **200** | **17.8** | **3.6** | **443** | **393** | **125** |
| | | 300 | 18.9 | 5.7 | 628 | 546 | 111 |
| | | 400 | 19.9 | 8.0 | 787 | 677 | 99 |
| | | 480 | 20.7 | 9.9 | 905 | 765 | 91 |
| BXKC-35H0801-B-13 | 95 | 50 | 15.8 | 0.8 | 119 | 110 | 150 |
| | | 100 | 16.5 | 1.7 | 232 | 210 | 140 |
| | | **200** | **17.8** | **3.6** | **435** | **386** | **123** |
| | | 300 | 18.9 | 5.7 | 617 | 537 | 109 |
| | | 400 | 19.9 | 8.0 | 773 | 665 | 97 |
| | | 480 | 20.7 | 9.9 | 889 | 751 | 89 |
| BXKC-40E0801-B-13 | 80 | 50 | 15.8 | 0.8 | 149 | 138 | 189 |
| | | 100 | 16.5 | 1.7 | 292 | 265 | 176 |
| | | **200** | **17.8** | **3.6** | **547** | **485** | **154** |
| | | 300 | 18.9 | 5.7 | 776 | 675 | 137 |
| | | 400 | 19.9 | 8.0 | 972 | 836 | 122 |
| | | 480 | 20.7 | 9.9 | 1118 | 944 | 112 |
| BXKC-40G0801-B-13 | 90 | 50 | 15.8 | 0.8 | 125 | 116 | 158 |
| | | 100 | 16.5 | 1.7 | 245 | 222 | 148 |
| | | **200** | **17.8** | **3.6** | **459** | **407** | **129** |
| | | 300 | 18.9 | 5.7 | 651 | 566 | 115 |
| | | 400 | 19.9 | 8.0 | 815 | 702 | 102 |
| | | 480 | 20.7 | 9.9 | 938 | 792 | 94 |
| BXKC-40H0801-B-13 | 95 | 50 | 15.8 | 0.8 | 121 | 112 | 153 |
| | | 100 | 16.5 | 1.7 | 237 | 215 | 144 |
| | | **200** | **17.8** | **3.6** | **445** | **395** | **125** |
| | | 300 | 18.9 | 5.7 | 631 | 549 | 111 |
| | | 400 | 19.9 | 8.0 | 791 | 680 | 99 |
| | | 480 | 20.7 | 9.9 | 909 | 768 | 91 |
| BXKC-50E0801-B-14 | 80 | 50 | 15.8 | 0.8 | 153 | 142 | 194 |
| | | 100 | 16.5 | 1.7 | 300 | 272 | 182 |
| | | **200** | **17.8** | **3.6** | **563** | **499** | **159** |
| | | 300 | 18.9 | 5.7 | 799 | 695 | 141 |
| | | 400 | 19.9 | 8.0 | 1000 | 861 | 126 |
| | | 480 | 20.7 | 9.9 | 1150 | 972 | 116 |

Notes for Table 3:

1. Alternate drive currents are provided for reference only and are not a guarantee of performance.
2. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

# Performance at Commonly Used Drive Currents

**Table 3:** Product Performance at Commonly Used Drive Currents

| Part Number | Minimum CRI | Drive Current[1] (mA) | Typical Vf Tc = 25°C (V) | Typical Power[2] Tc = 25°C (W) | Typical Pulsed Flux[2] Tc = 25°C (lm) | Typical DC Flux[2] Tc = 85°C (lm) | Typical Efficacy[2] Tc = 25°C (lm/W) |
|---|---|---|---|---|---|---|---|
| BXKC-50G0801-B-14 | 90 | 50 | 15.8 | 0.8 | 128 | 118 | 162 |
| | | 100 | 16.5 | 1.7 | 250 | 227 | 152 |
| | | **200** | **17.8** | **3.6** | **470** | **417** | **132** |
| | | 300 | 18.9 | 5.7 | 667 | 580 | 118 |
| | | 400 | 19.9 | 8.0 | 835 | 718 | 105 |
| | | 480 | 20.7 | 9.9 | 960 | 811 | 97 |
| BXKC-56E0801-B-14 | 80 | 50 | 15.8 | 0.8 | 153 | 142 | 194 |
| | | 100 | 16.5 | 1.7 | 300 | 272 | 182 |
| | | **200** | **17.8** | **3.6** | **563** | **499** | **159** |
| | | 300 | 18.9 | 5.7 | 799 | 695 | 141 |
| | | 400 | 19.9 | 8.0 | 1000 | 861 | 126 |
| | | 480 | 20.7 | 9.9 | 1150 | 972 | 116 |
| BXKC-65E0801-B-14 | 80 | 50 | 15.8 | 0.8 | 153 | 142 | 194 |
| | | 100 | 16.5 | 1.7 | 300 | 272 | 182 |
| | | **200** | **17.8** | **3.6** | **563** | **499** | **159** |
| | | 300 | 18.9 | 5.7 | 799 | 695 | 141 |
| | | 400 | 19.9 | 8.0 | 1000 | 861 | 126 |
| | | 480 | 20.7 | 9.9 | 1150 | 972 | 116 |
| BXKC-27E0801-D-13 | 80 | 100 | 7.9 | 0.8 | 137 | 127 | 173 |
| | | 200 | 8.3 | 1.7 | 268 | 243 | 162 |
| | | **400** | **8.9** | **3.6** | **502** | **445** | **141** |
| | | 600 | 9.4 | 5.7 | 712 | 619 | 126 |
| | | 800 | 10.0 | 8.0 | 892 | 767 | 112 |
| | | 960 | 10.4 | 9.9 | 1026 | 866 | 103 |
| BXKC-27G0801-D-13 | 90 | 100 | 7.9 | 0.8 | 112 | 104 | 142 |
| | | 200 | 8.3 | 1.7 | 220 | 199 | 133 |
| | | **400** | **8.9** | **3.6** | **412** | **365** | **116** |
| | | 600 | 9.4 | 5.7 | 584 | 508 | 103 |
| | | 800 | 10.0 | 8.0 | 732 | 630 | 92 |
| | | 960 | 10.4 | 9.9 | 842 | 711 | 85 |
| BXKC-30E0801-D-13 | 80 | 100 | 7.9 | 0.8 | 144 | 134 | 183 |
| | | 200 | 8.3 | 1.7 | 282 | 256 | 171 |
| | | **400** | **8.9** | **3.6** | **530** | **470** | **149** |
| | | 600 | 9.4 | 5.7 | 752 | 654 | 133 |
| | | 800 | 10.0 | 8.0 | 941 | 810 | 118 |
| | | 960 | 10.4 | 9.9 | 1083 | 915 | 109 |

Notes for Table 3:

1. Alternate drive currents are provided for reference only and are not a guarantee of performance.
2. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

# Performance at Commonly Used Drive Currents

**Table 3:** Product Performance at Commonly Used Drive Currents

| Part Number | Minimum CRI | Drive Current[1] (mA) | Typical Vf Tc = 25°C (V) | Typical Power[2] Tc = 25°C (W) | Typical Pulsed Flux[2] Tc = 25°C (lm) | Typical DC Flux[2] Tc = 85°C (lm) | Typical Efficacy[2] Tc = 25°C (lm/W) |
|---|---|---|---|---|---|---|---|
| BXKC-30G0801-D-13 | 90 | 100 | 7.9 | 0.8 | 118 | 109 | 149 |
| | | 200 | 8.3 | 1.7 | 230 | 209 | 139 |
| | | **400** | **8.9** | **3.6** | **432** | **383** | **122** |
| | | 600 | 9.4 | 5.7 | 613 | 533 | 108 |
| | | 800 | 10.0 | 8.0 | 767 | 660 | 96 |
| | | 960 | 10.4 | 9.9 | 883 | 746 | 89 |
| BXKC-35E0801-D-13 | 80 | 100 | 7.9 | 0.8 | 148 | 137 | 187 |
| | | 200 | 8.3 | 1.7 | 289 | 262 | 175 |
| | | **400** | **8.9** | **3.6** | **542** | **481** | **153** |
| | | 600 | 9.4 | 5.7 | 769 | 669 | 136 |
| | | 800 | 10.0 | 8.0 | 963 | 828 | 121 |
| | | 960 | 10.4 | 9.9 | 1107 | 936 | 111 |
| BXKC-35G0801-D-13 | 90 | 100 | 7.9 | 0.8 | 121 | 112 | 153 |
| | | 200 | 8.3 | 1.7 | 236 | 214 | 143 |
| | | **400** | **8.9** | **3.6** | **443** | **393** | **125** |
| | | 600 | 9.4 | 5.7 | 628 | 546 | 111 |
| | | 800 | 10.0 | 8.0 | 787 | 677 | 99 |
| | | 960 | 10.4 | 9.9 | 905 | 765 | 91 |
| BXKC-40E0801-D-13 | 80 | 100 | 7.9 | 0.8 | 149 | 138 | 189 |
| | | 200 | 8.3 | 1.7 | 292 | 265 | 176 |
| | | **400** | **8.9** | **3.6** | **547** | **485** | **154** |
| | | 600 | 9.4 | 5.7 | 776 | 675 | 137 |
| | | 800 | 10.0 | 8.0 | 972 | 836 | 122 |
| | | 960 | 10.4 | 9.9 | 1118 | 944 | 112 |
| BXKC-40G0801-D-13 | 90 | 100 | 7.9 | 0.8 | 125 | 116 | 158 |
| | | 200 | 8.3 | 1.7 | 245 | 222 | 148 |
| | | **400** | **8.9** | **3.6** | **459** | **407** | **129** |
| | | 600 | 9.4 | 5.7 | 651 | 566 | 115 |
| | | 800 | 10.0 | 8.0 | 815 | 702 | 102 |
| | | 960 | 10.4 | 9.9 | 938 | 792 | 94 |
| BXKC-50E0801-D-14 | 80 | 100 | 7.9 | 0.8 | 153 | 142 | 194 |
| | | 200 | 8.3 | 1.7 | 300 | 272 | 182 |
| | | **400** | **8.9** | **3.6** | **563** | **499** | **159** |
| | | 600 | 9.4 | 5.7 | 799 | 695 | 141 |
| | | 800 | 10.0 | 8.0 | 1000 | 861 | 126 |
| | | 960 | 10.4 | 9.9 | 1150 | 972 | 116 |

Notes for Table 3:

1. Alternate drive currents are provided for reference only and are not a guarantee of performance.
2. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

# Performance at Commonly Used Drive Currents

**Table 3:** Product Performance at Commonly Used Drive Currents

| Part Number | Minimum CRI | Drive Current[1] (mA) | Typical Vf Tc = 25°C (V) | Typical Power[2] Tc = 25°C (W) | Typical Pulsed Flux[2] Tc = 25°C (lm) | Typical DC Flux[2] Tc = 85°C (lm) | Typical Efficacy[2] Tc = 25°C (lm/W) |
|---|---|---|---|---|---|---|---|
| BXKC-50G0801-D-14 | 90 | 100 | 7.9 | 0.8 | 128 | 118 | 162 |
| | | 200 | 8.3 | 1.7 | 250 | 227 | 152 |
| | | **400** | **8.9** | **3.6** | **470** | **417** | **132** |
| | | 600 | 9.4 | 5.7 | 667 | 580 | 118 |
| | | 800 | 10.0 | 8.0 | 835 | 718 | 105 |
| | | 960 | 10.4 | 9.9 | 960 | 811 | 97 |
| BXKC-56E0801-D-14 | 80 | 100 | 7.9 | 0.8 | 153 | 142 | 194 |
| | | 200 | 8.3 | 1.7 | 300 | 272 | 182 |
| | | **400** | **8.9** | **3.6** | **563** | **499** | **159** |
| | | 600 | 9.4 | 5.7 | 799 | 695 | 141 |
| | | 800 | 10.0 | 8.0 | 1000 | 861 | 126 |
| | | 960 | 10.4 | 9.9 | 1150 | 972 | 116 |
| BXKC-65E0801-D-14 | 80 | 100 | 7.9 | 0.8 | 153 | 142 | 194 |
| | | 200 | 8.3 | 1.7 | 300 | 272 | 182 |
| | | **400** | **8.9** | **3.6** | **563** | **499** | **159** |
| | | 600 | 9.4 | 5.7 | 799 | 695 | 141 |
| | | 800 | 10.0 | 8.0 | 1000 | 861 | 126 |
| | | 960 | 10.4 | 9.9 | 1150 | 972 | 116 |

Notes for Table 3:

1. Alternate drive currents are provided for reference only and are not a guarantee of performance.
2. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

# Electrical Characteristics

**Table 4:** Electrical Characteristics

| Part Number | Drive Current (mA) | Forward Voltage Pulsed, Tc = 25°C (V)[1,2,3] | | | Typical Coefficient of Forward Voltage[4] Vf/Tc (mV/°C) | Typical Thermal Resistance Junction to Case[5,6] Rj-c (°C/W) | Driver Selection Voltages[6] (V) | |
|---|---|---|---|---|---|---|---|---|
| | | Minimum | Typical | Maximum | | | Vf Min. Hot[7] Tc = 105°C (V) | Vf Max. Cold[7] Tc = -40°C (V) |
| BXKC-xxx080x-A-1x | 100 | 32.0 | 35.5 | 38.7 | 12.7 | 2.0 | 30.9 | 39.6 |
| BXKC-xxx080x-B-1x | 200 | 16.0 | 17.8 | 19.3 | 6.4 | 2.0 | 15.5 | 19.8 |
| BXKC-xxx080x-D-1x | 400 | 8.0 | 8.9 | 9.7 | 3.2 | 2.0 | 7.7 | 9.9 |

Notes for Table 4:

1. Parts are tested in pulsed conditions, Tc = 25°C. Pulse width is 10ms.
2. Voltage minimum and maximum are provided for reference only and are not a guarantee of performance.
3. Bridgelux maintains a tester tolerance of ± 0.10V on forward voltage measurements.
4. Typical coefficient of forward voltage tolerance is ± 0.1mV for nominal current.
5. Thermal resistance values are based from test data of a 3000K 80 CRI product.
6. Thermal resistance value was calculated using total electrical input power; optical power was not subtracted from input power. The thermal interface material used during testing is not included in the thermal resistance value.
7. Vf min hot and max cold values are provided as reference only and are not guaranteed by test. These values are provided to aid in driver design and selection over the operating range of the product.

# Absolute Maximum Ratings

**Table 5 :** Maximum Ratings

| Parameter | Maximum Rating | | |
|---|---|---|---|
| LED Junction Temperature ($T_j$) | 125˚C | | |
| Storage Temperature | -40˚C to +105˚C | | |
| Operating Case Temperature[1] ($T_c$) | 105˚C | | |
| Soldering Temperature[3] | 300˚C or lower for a maximum of 6 seconds | | |
| | BXKC-xxx080x-A-1x | BXKC-xxx080x-B-1x | BXKC-xxx080x-D-1x |
| Maximum Drive Current[2,4] | 240 mA | 480 mA | 960 mA |
| Maximum Reverse Voltage[5] | -60 V | -30 V | -15 V |

Notes for Table 5:

1. For IEC 62717 requirement, please consult your Bridgelux sales representative.
2. Arrays may be driven at higher currents however lumen maintenance may be reduced.
3. See Bridgelux Application Notes for more information.
4. Bridgelux recommends a maximum duty cycle of 10% and pulse width of 20 ms when operating LED Arrays at maximum peak pulsed current specified. Maximum peak pulsed currents indicate values where LED Arrays can be driven without catastrophic failures.
5. Light emitting diodes are not designed to be driven in reverse voltage and will not produce light under this condition. Maximum rating provided for reference only.

# Performance Curves

**Figure 1:** Forward Voltage vs. Forward Current

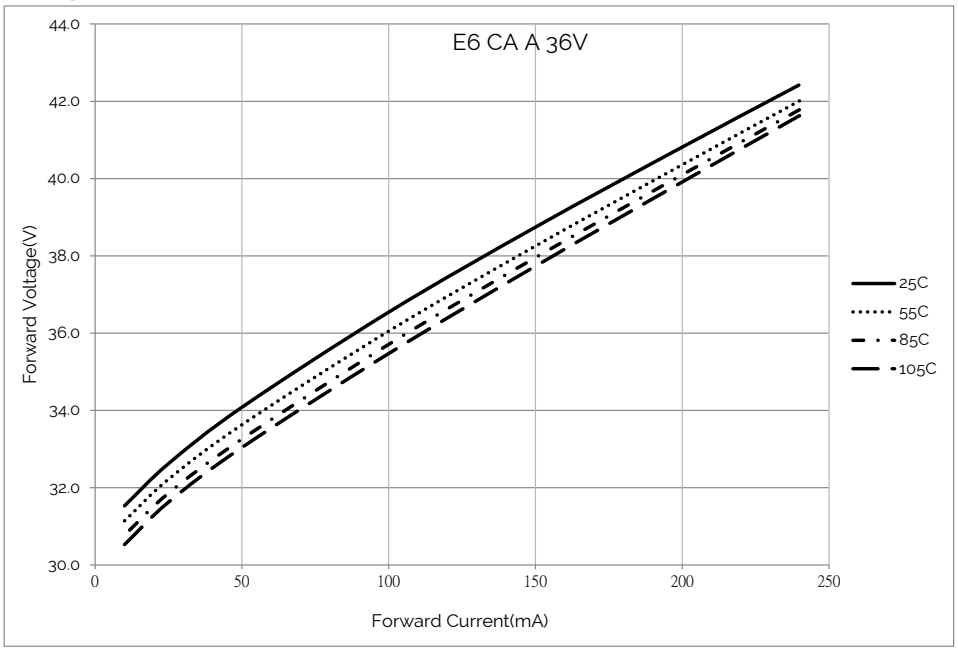
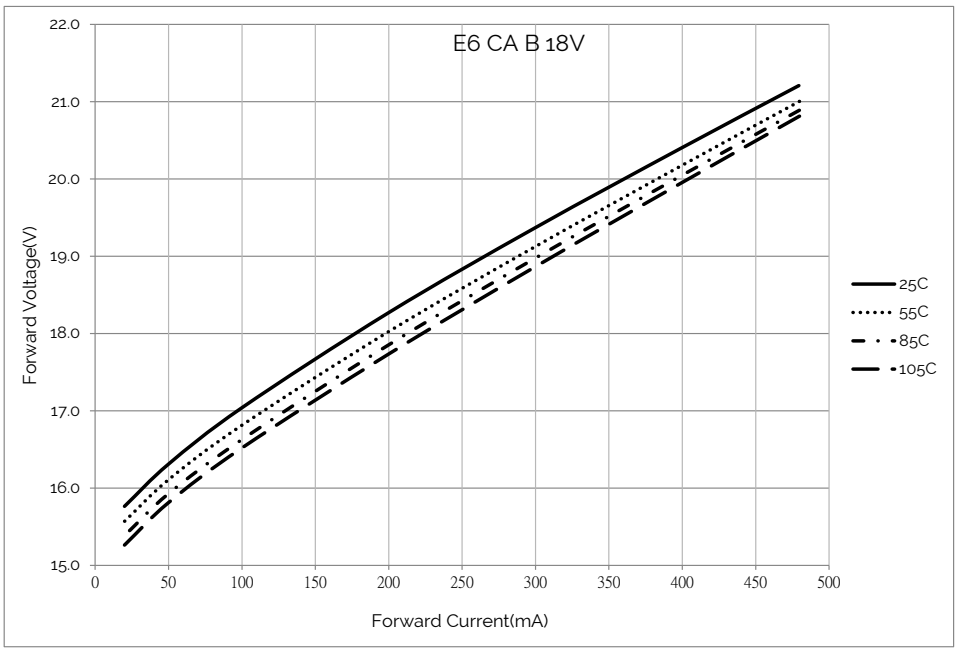



**Figure 2:** Forward Voltage vs. Forward Current



# Performance Curves

**Figure 3:** Forward Voltage vs. Forward Current

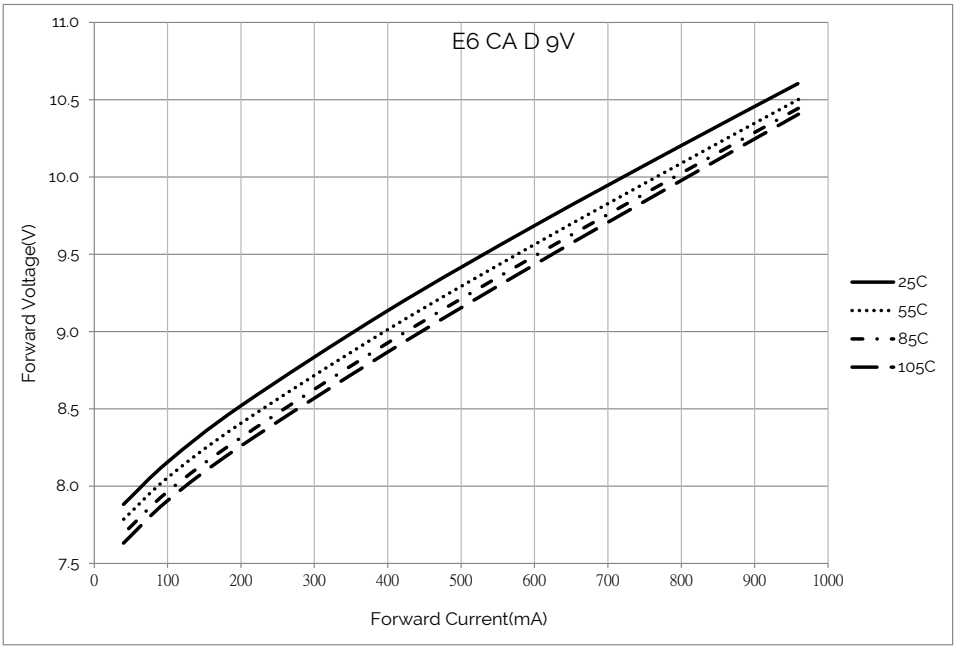
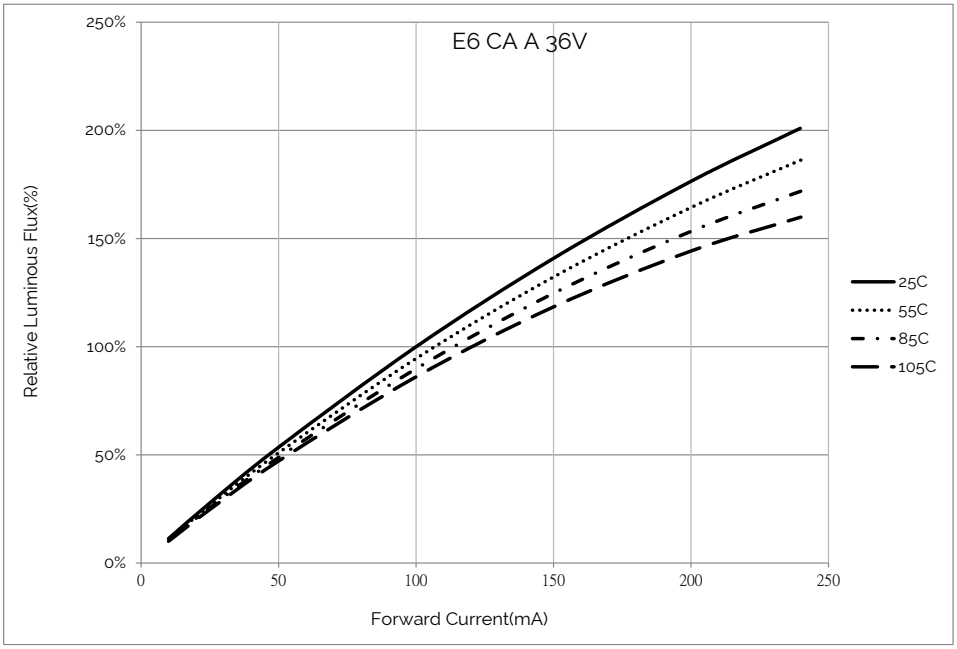



**Figure 4:** Relative Luminous Flux vs. Drive Current



# Performance Curves

**Figure 5: Relative Luminous Flux vs. Drive Current**

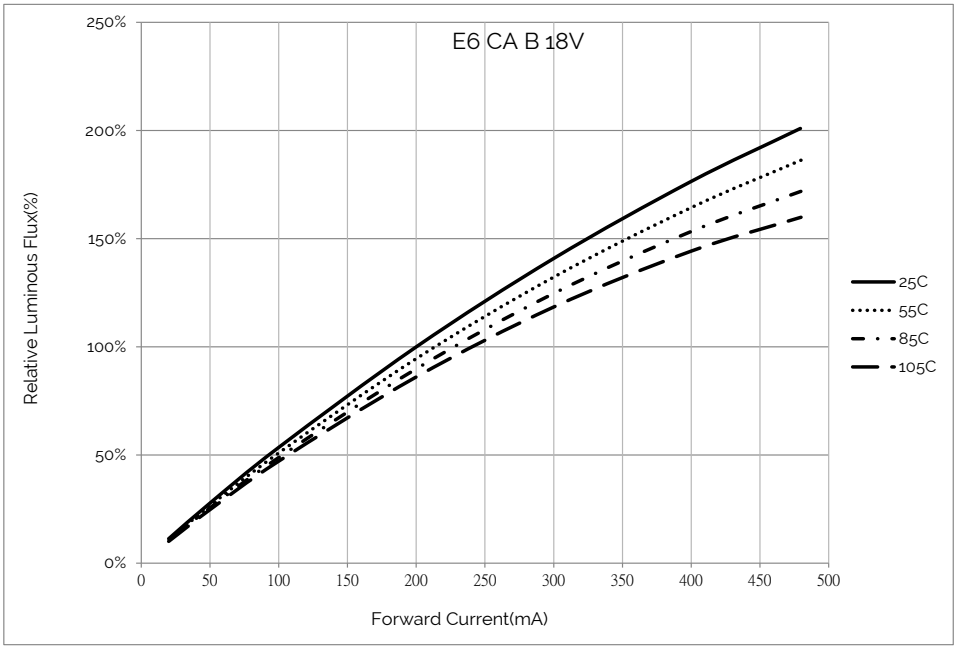
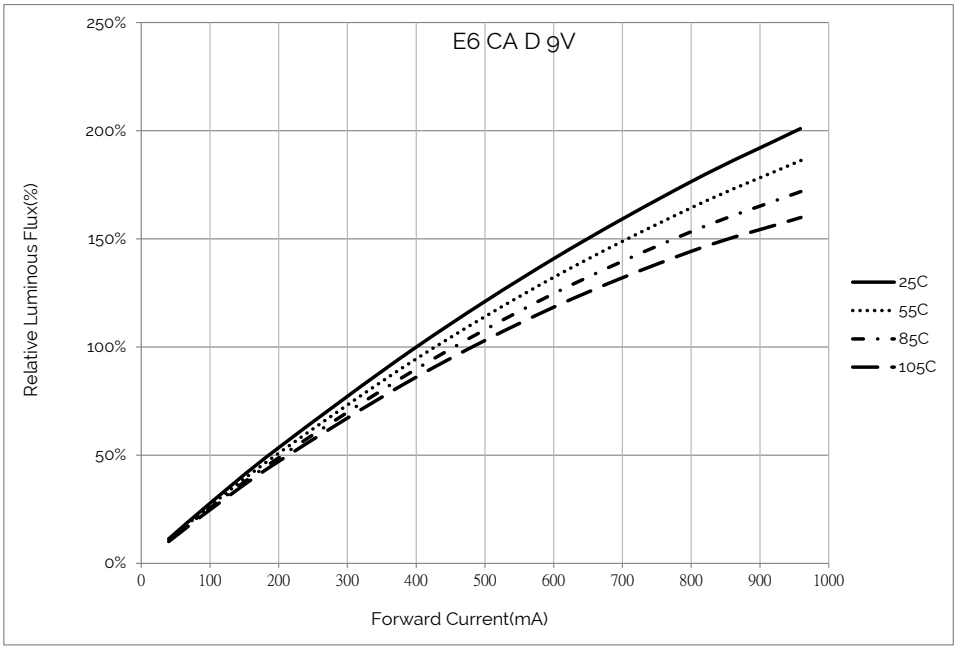



**Figure 6: Relative Flux vs. Drive Current**

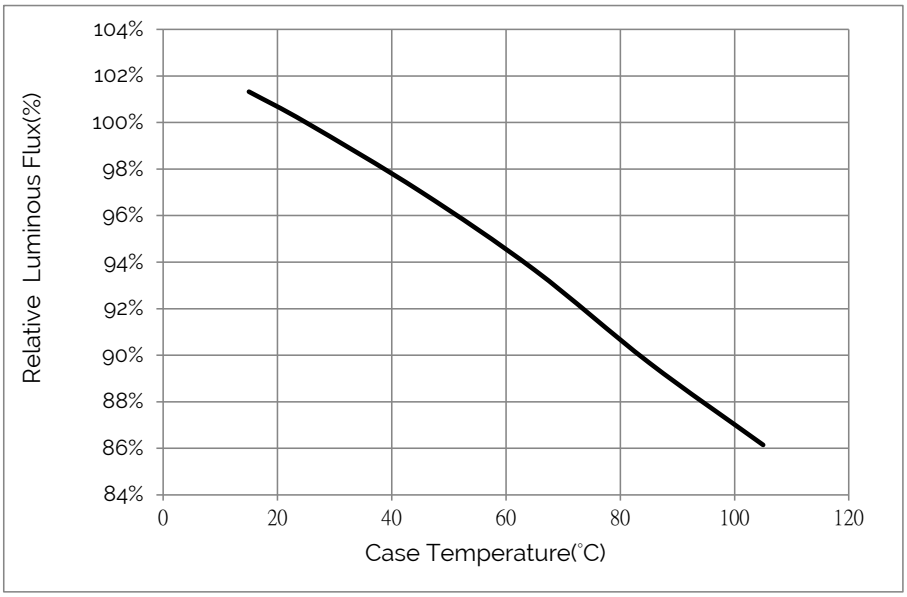



Notes for Figure Figure 6::

1. Characteristics shown based on 3000K and 80 CRI.
2. For other color SKUs, the relative luminous will vary. Please contact your Bridgelux sales representative for more information.

# Performance Curves

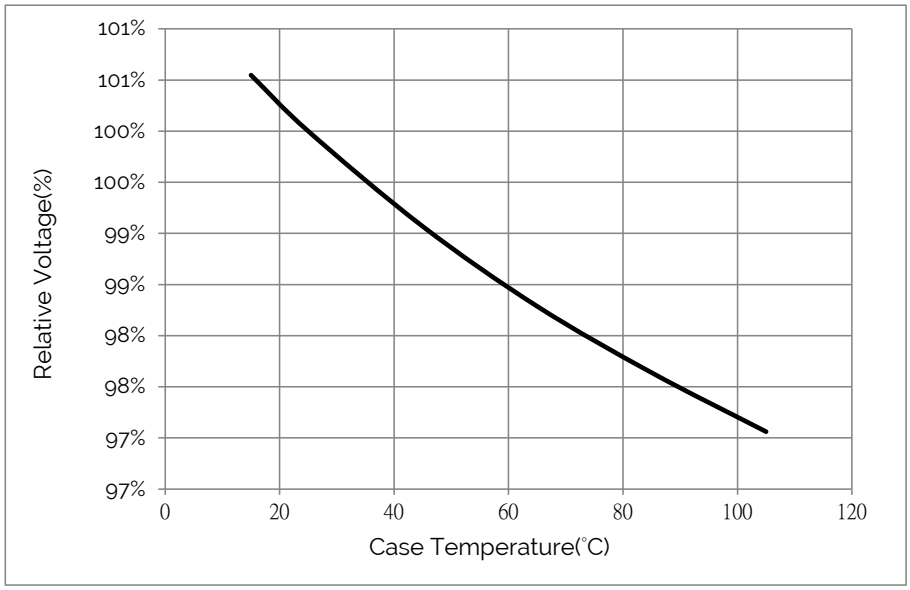
**Figure 7: Relative Flux vs. Case Temperature**




Notes for Figure 7:

1. Characteristics shown based on 3000K and 80 CRI.
2. For other color SKUs, the relative luminous will vary. Please contact your Bridgelux sales representative for more information.

**Figure 8: Relative Voltage vs. Case Temperature**



# Performance Curves

**Figure 9:** Typical DC ccx Shift vs. Case Temperature

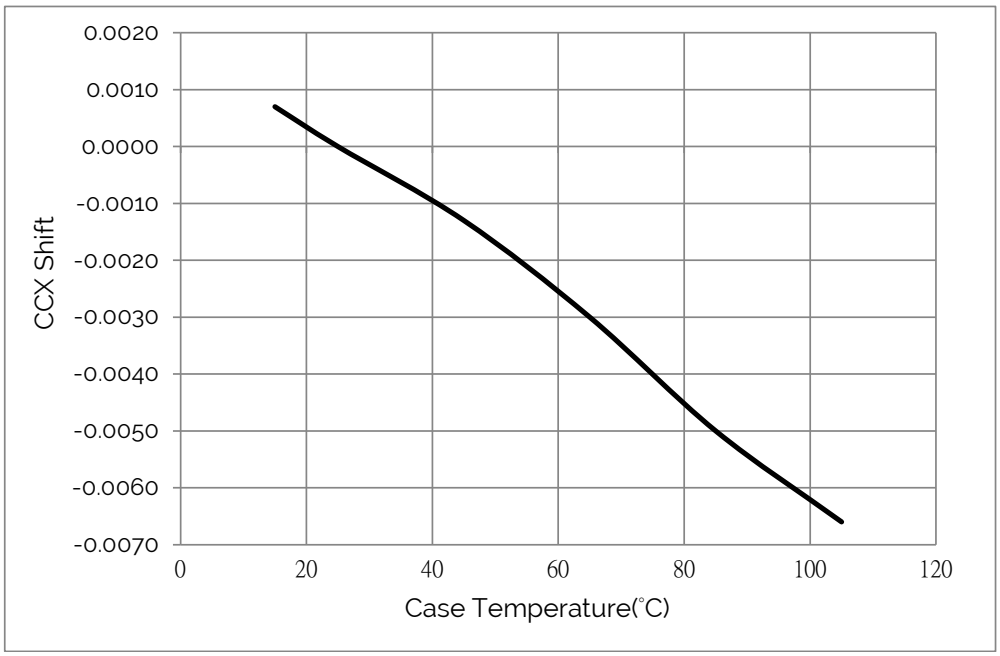
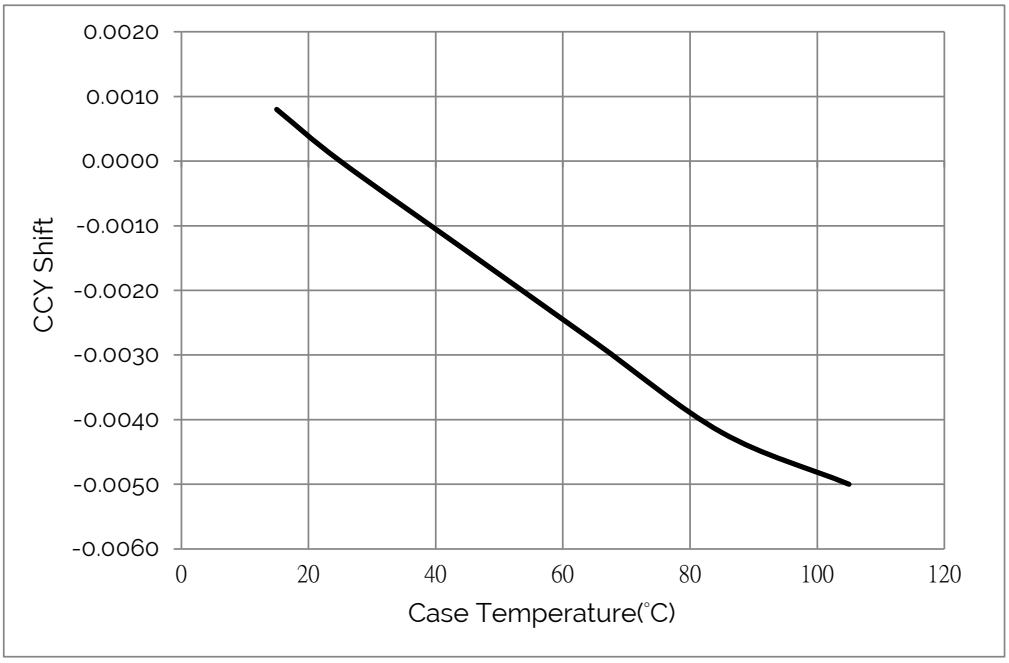



**Figure 10:** Typical DC ccy Shift vs. Case Temperature

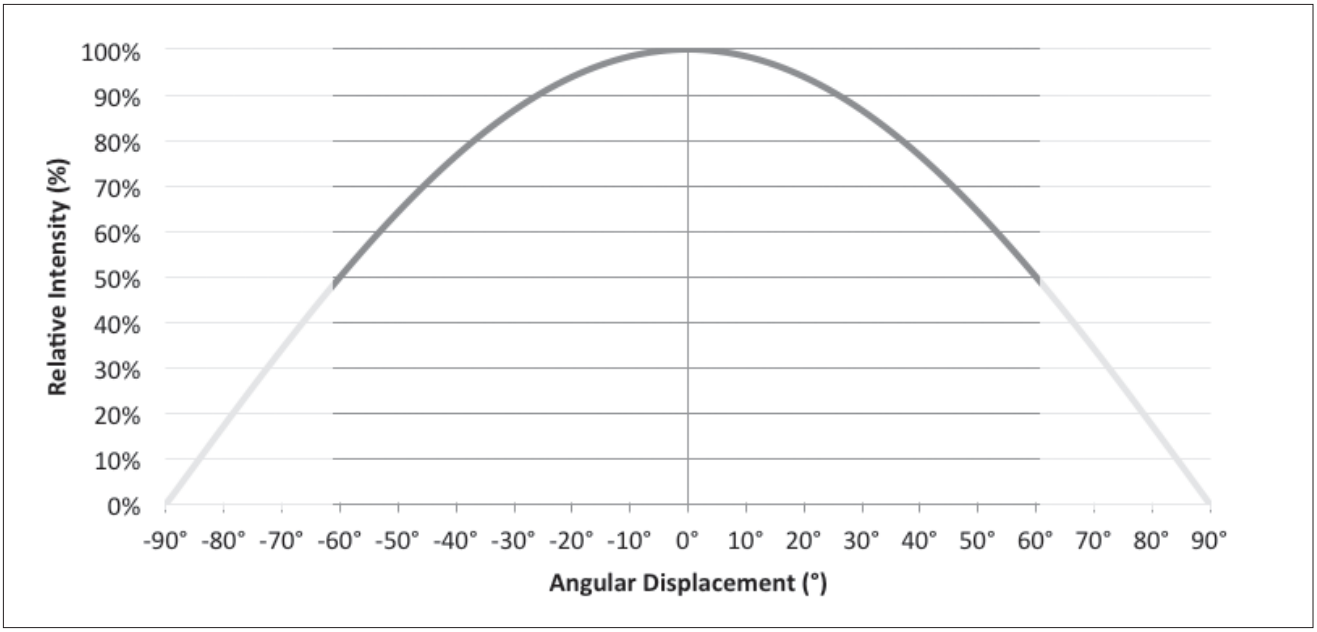



Notes for Figure 9 and Figure 10:

1. Characteristics shown based on 3000K and 80 CRI.
2. For other color SKUs, the shift in color will vary. Please contact your Bridgelux sales representative for more information.

# Typical Radiation Pattern

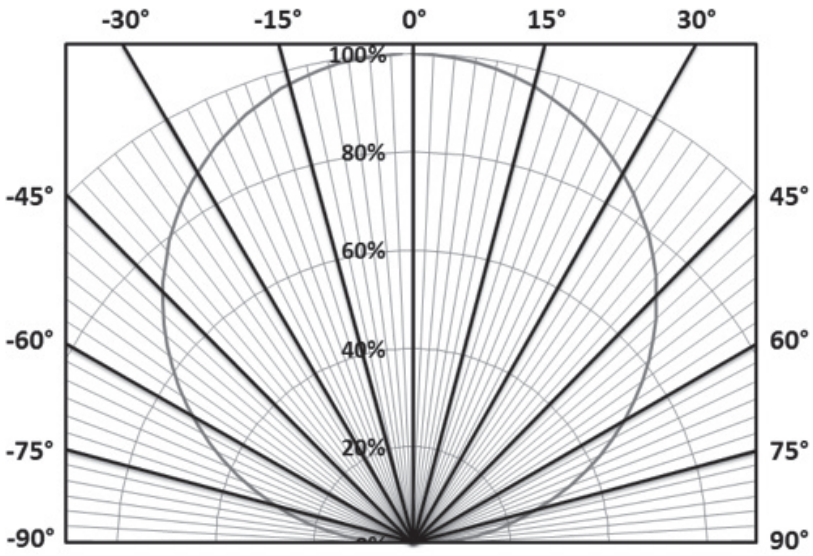
**Figure 11: Typical Spatial Radiation Pattern**




Notes for Figure 11:

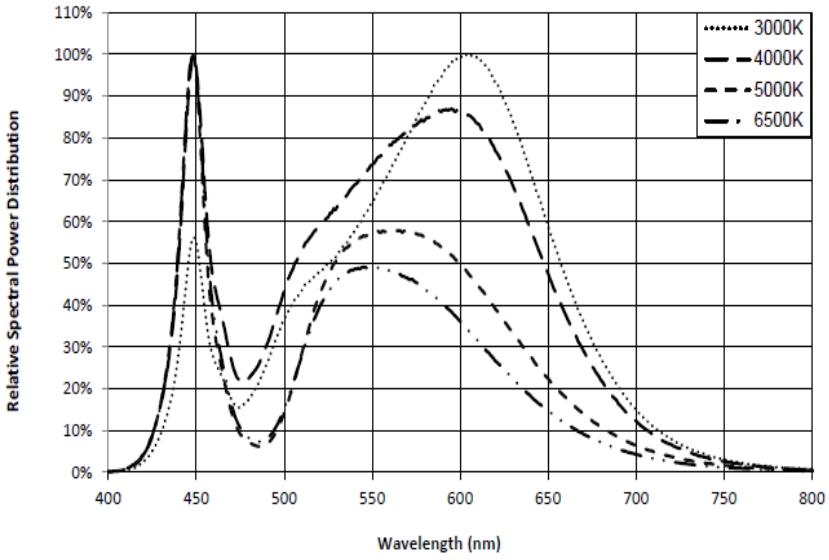
1. Typical viewing angle is 120°.
2. The viewing angle is defined as the off axis angle from the centerline where intensity is ½ of the peak value.

**Figure 12: Typical Polar Radiation Pattern**



# Typical Color Spectrum

**Figure 13: Typical Color Spectrum**




Notes for Figure 13:

1. Color spectra measured at nominal current for Tj = Tc = 25°C.
2. Color spectra shown is 3000K and 80 CRI.
3. Color spectra shown is 4000K and 80 CRI.
4. Color spectra shown is 5000K and 70 CRI.
4. Color spectra shown is 6500K and 70 CRI.

# Operating Limits

**Figure 14:** Operating Limits

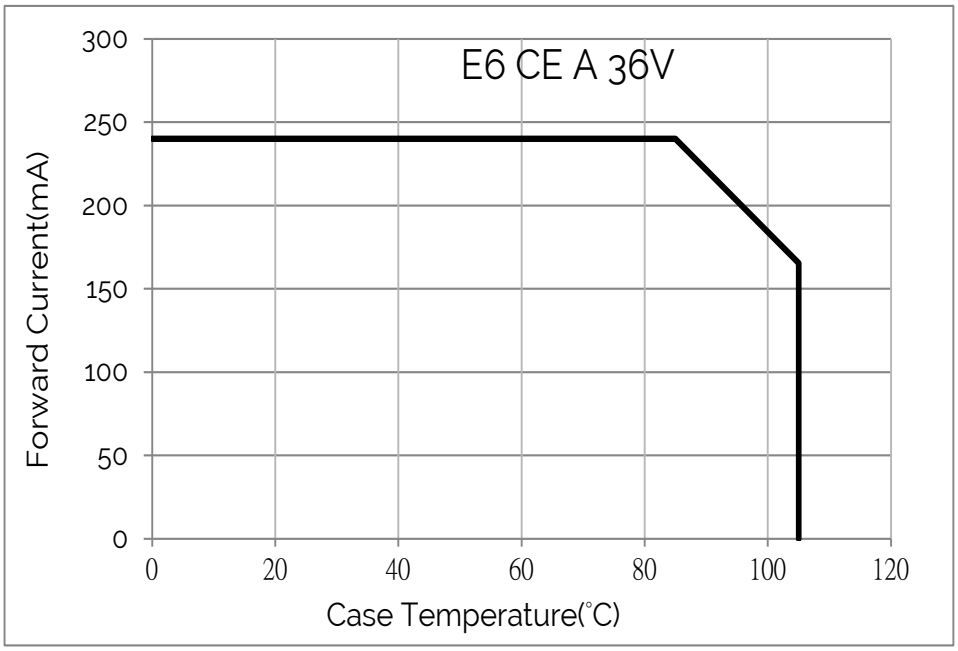
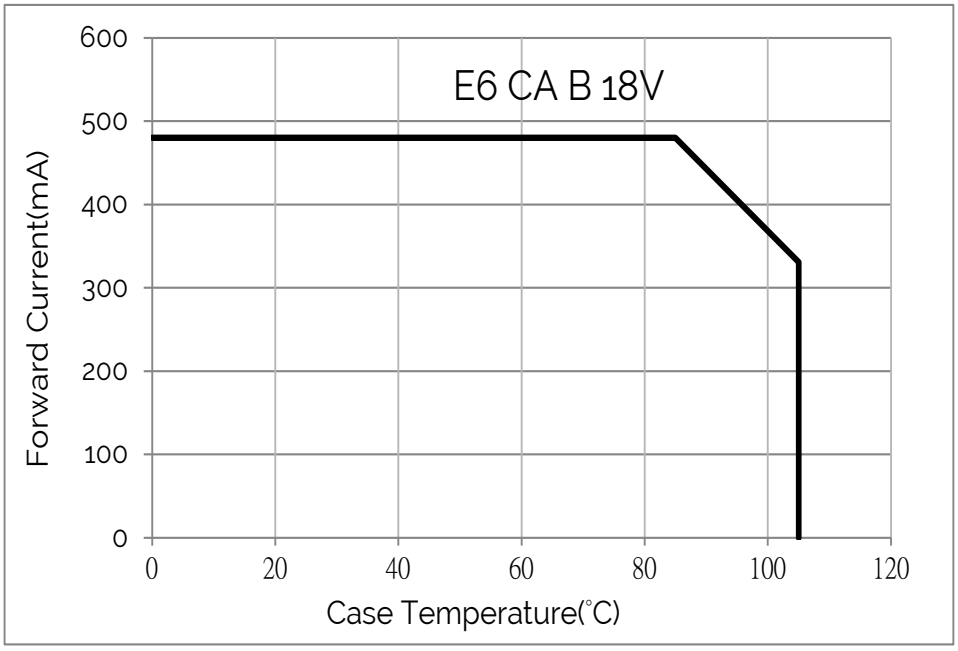
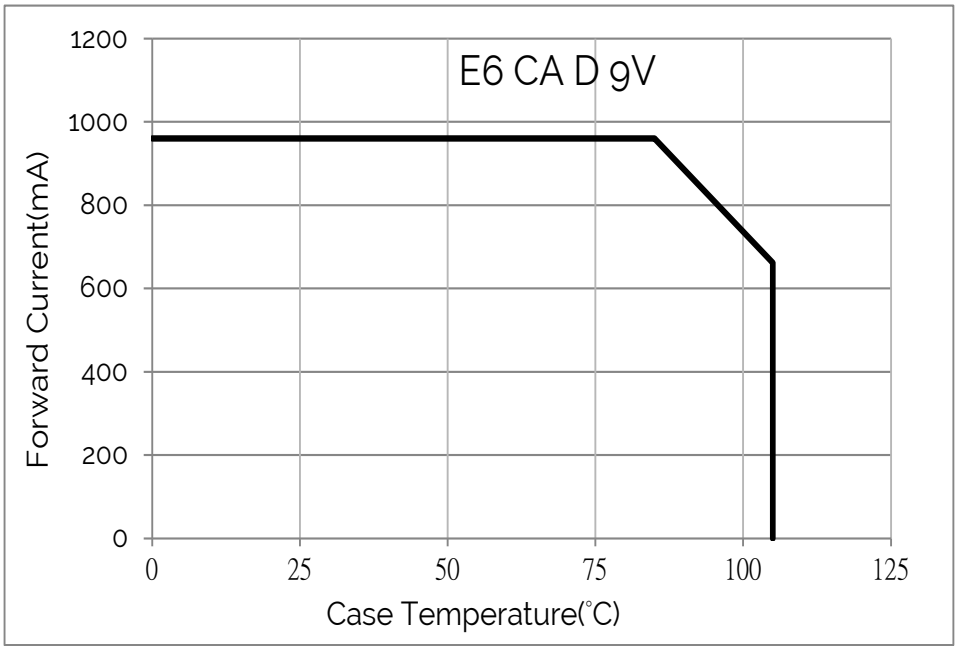



**Figure 15:** Operating Limits



# Operating Limits

**Figure 16:** **Operating Limits**



# Color Binning Information

**Table 6:** xy Bin Coordinates and Associated Typical CCT

| CCT | Center Point | | Degree | 3 step | | 4 step | |
|---|---|---|---|---|---|---|---|
| | x | y | (°) | a | b | a | b |
| 2700K | 0.4578 | 0.4101 | 53.700 | 0.0081 | 0.0042 | N/A | N/A |
| 3000K | 0.4338 | 0.403 | 53.217 | 0.0083 | 0.0041 | N/A | N/A |
| 3500K | 0.4073 | 0.3917 | 54.000 | 0.0093 | 0.0041 | N/A | N/A |
| 4000K | 0.3818 | 0.3797 | 53.717 | 0.0094 | 0.0040 | N/A | N/A |
| 5000K | 0.3447 | 0.3553 | 59.617 | N/A | N/A | 0.0110 | 0.0047 |
| 5600K | 0.3287 | 0.3417 | 59.060 | N/A | N/A | 0.0099 | 0.0042 |
| 6500K | 0.3123 | 0.3282 | 58.567 | N/A | N/A | 0.0089 | 0.0038 |

Notes for Table 6:

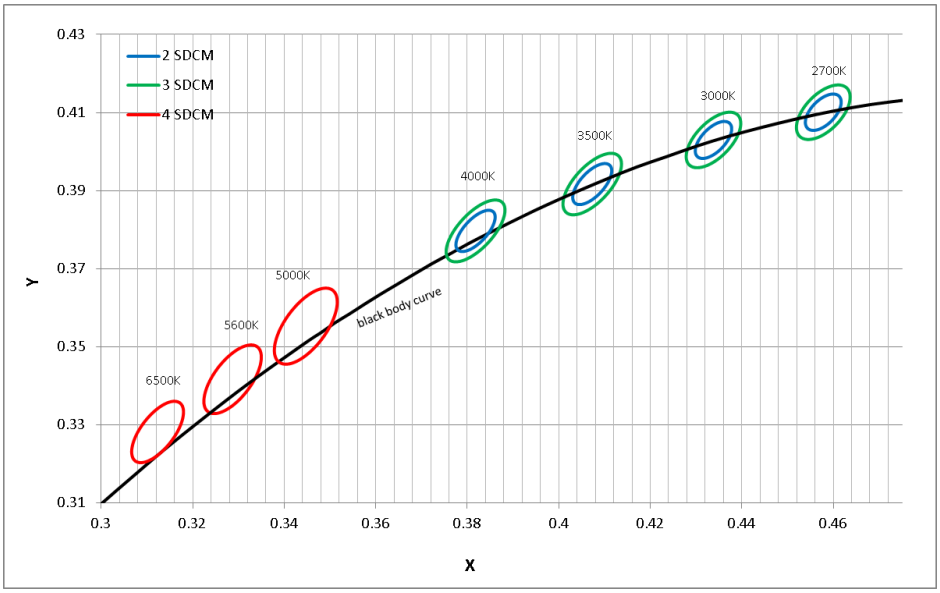
1. 2700K \3000K\3500K\4000K product is cold targeted to Tc = 25°C
2. 5000K \5600K\6500K product is hot targeted to Tc = 85°C

**Table 7:** Warm and Neutral White xy Bin Coordinates and Associated Typical CCT

| Bin Code | 2700K | 3000K | 3500K | 4000K |
|---|---|---|---|---|
| 13 (3 SDCM) | (2651K - 2794K) | (2968K - 3136K) | (3369K - 3586K) | (3851K - 4130K) |
| 12 (2 SDCM) | (2674K - 2769K) | (2995K - 3107K) | (3404K - 3548K) | (3895K - 4081K) |
| Center Point (x,y) | (0.4578, 0.4101) | (0.4338, 0.403)1 | (0.4073, 0.3917) | (0.3818, 0.3797) |

# Color Binning Information

**Figure 17:** Graph of Test Bins in xy Color Space

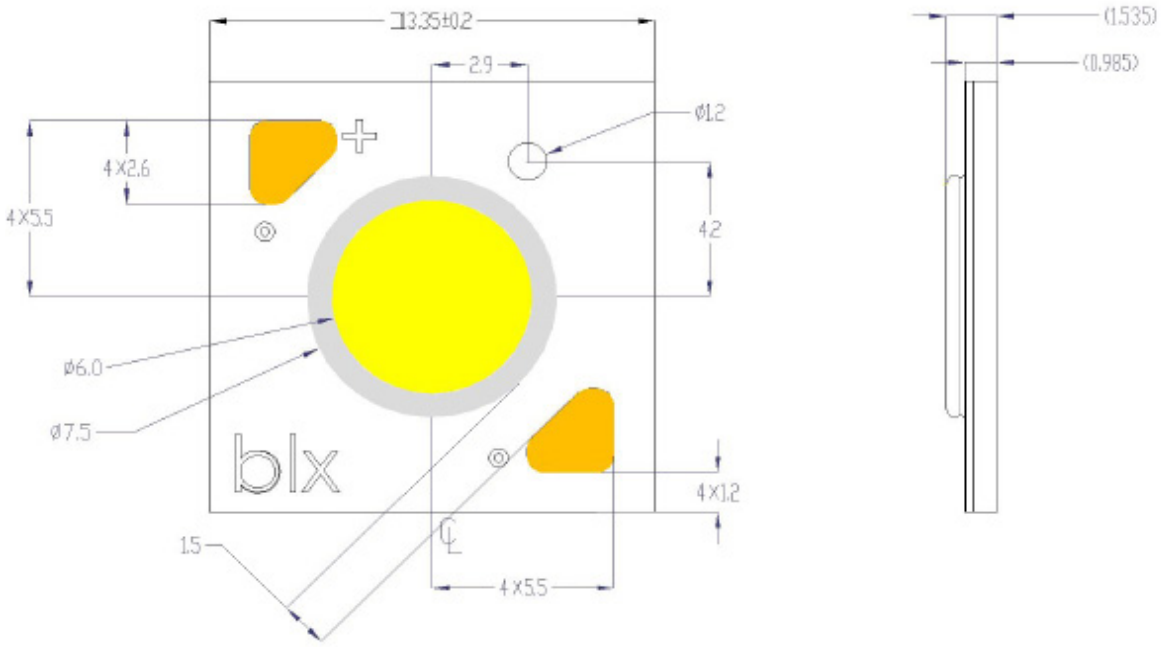



Notes for Figure 17:

1. DC Test Conditions at $T_c$ = 85°C.
2. Bridgelux maintains a tolerance of ± 0.007 on x and y color coordinates in the CIE 1931 color space.

# Mechanical Dimensions

**Figure 18:** Drawing for E6 CA LED Array




Notes for Figure 18:

1. Bridgelux maintains a flatness of 0.10mm across the mounting surface of the array
2. Drawings are not to scale.
3. Drawing dimensions are in millimeters.
4. Unless otherwise specified, tolerances are ±0.13mm.
5. Solder pad labeled "+" denotes positive contact.
6. The optical center of the LED Array is nominally defined by the mechanical center of the array to a tolerance of ± 0.2mm.

# Packaging and Labeling

**Figure 19:** Packaging and Labeling

# Packaging and Labeling

**Figure 20: Laser Marking**

Bridgelux COB arrays have laser markings on the back side of the substrate to help with product identification. In addition to the product identification markings, Bridgelux COB arrays also contain markings for internal Bridgelux manufacturing use only. The image below shows which markings are for customer use and which ones are for Bridgelux internal use only. The Bridgelux internal manufacturing markings are subject to change without notice, however these will not impact the form, function or performance of the COB array.

# Design Resources

**LM80**

LM80 testing has been completed and the LM80 report is now available. Please contact your Bridgelux sales representative for more information.

# Precautions

**CAUTION: CHEMICAL EXPOSURE HAZARD**

Exposure to some chemicals commonly used in luminaire manufacturing and assembly can cause damage to the LED array. Please consult Bridgelux Application Note AN31 for additional information.

**CAUTION: EYE SAFETY**

The Bridgelux E series LED array emits visible light, that, under certain circumstances, could be harmful to the eye. Proper safeguards must be used.

**CAUTION: RISK OF BURN**

Do not touch the Bridgelux E series LED array during operation. Allow the array to cool for a sufficient period of time before handling. The Bridgelux E series LED array may reach elevated temperatures such that could burn skin when touched

## CAUTION

**CONTACT WITH LIGHT EMITTING SURFACE (LES)**

Avoid any contact with the LES. Do not touch the LES of the LED array or apply stress to the LES (yellow phosphor resin area). Contact may cause damage to the LED array.

Optics and reflectors must not be mounted in contact with the LES (yellow phosphor resin area). Use the mechanical features of the LED array housing, edges and/or mounting holes to locate and secure optical devices as needed.

# Disclaimers

**MINOR PRODUCT CHANGE POLICY**

The rigorous qualification testing on products offered by Bridgelux provides performance assurance. Slight cosmetic changes that do not affect form, fit, or function may occur as Bridgelux continues product optimization.

**STANDARD TEST CONDITIONS**

Unless otherwise stated, array testing is performed at the nominal drive current.

# About Bridgelux: Bridging Light and Life™

At Bridgelux, we help companies, industries and people experience the power and possibility of light. Since 2002, we've designed LED solutions that are high performing, energy efficient, cost effective and easy to integrate. Our focus is on light's impact on human behavior, delivering products that create better environments, experiences and returns—both experiential and financial.  And our patented technology drives new platforms for commercial and industrial luminaires.

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