

LED Product Line

LOW CURRENT GaN LEDs

| | Brightness (mW) | | Color | Peak Wavelength (nm) | | | Forward Voltage | | ESD Rating | Dimensions |
|------------------|-----------------|------|-------|----------------------|-----|-----|-----------------|-----|------------|------------|
| | Min | Typ | | Min | Typ | Max | Typ | Max | | |
| C430-CB230-E1000 | .425 | .650 | Blue | 426 | 428 | 430 | 4.0 | 4.5 | Class II | See Fig. 1 |

All measurements taken at 10mA.

LOW CURRENT InGaN LEDs

| | Brightness (mW) | | Color | Dominant Wavelength (nm) | | | Forward Voltage | | ESD Rating | Dimensions |
|------------------|-----------------|------|-----------|--------------------------|-----|-----|-----------------|-----|------------|------------|
| | Min | Typ | | Min | Typ | Max | Typ | Max | | |
| C460-CB230-E1000 | 1.0 | 1.3 | Deep Blue | 455 | 460 | 465 | 3.5 | 3.7 | Class II | See Fig. 1 |
| C470-CB230-E1000 | 1.0 | 1.3 | Blue | 465 | 470 | 475 | 3.5 | 3.7 | Class II | See Fig. 1 |
| C525-CB230-E1000 | .500 | .650 | Green | 520 | 525 | 535 | 3.5 | 3.7 | Class II | See Fig. 1 |

All measurements taken at 10mA.

STANDARD BRIGHTNESS LEDs

| | Brightness (mW) | | Color | Peak Wavelength (nm) | | | Forward Voltage | | ESD Rating | Dimensions |
|------------------|-----------------|-----|-------|----------------------|-----|-----|-----------------|-----|------------|------------|
| | Min | Typ | | Min | Typ | Max | Typ | Max | | |
| C430-CB290-E1000 | .850 | 1.1 | Blue | 426 | 428 | 430 | 4.0 | 4.5 | Class II | See Fig. 2 |

All measurements taken at 20mA.

SUPERBRIGHT™ InGaN LEDs

| | Brightness (mW) | | Color | Dominant Wavelength (nm) | | | Forward Voltage | | ESD Rating | Dimensions |
|------------------|-----------------|-----|---------------|--------------------------|-----|-----|-----------------|-----|------------|------------|
| | Min | Typ | | Min | Typ | Max | Typ | Max | | |
| C450-CB290-E1000 | 2.5 | 3.5 | Deep Blue | 445 | 450 | 455 | 3.3 | 3.7 | Class II | See Fig. 2 |
| C460-CB290-E1000 | 2.0 | 3.0 | Deep Blue | 455 | 460 | 465 | 3.3 | 3.7 | Class II | See Fig. 2 |
| C470-CB290-E1000 | 2.0 | 2.5 | Blue | 465 | 470 | 475 | 3.3 | 3.7 | Class II | See Fig. 2 |
| C490-CB290-E1000 | 2.0 | 2.5 | Aqua Blue | 485 | 490 | 495 | 3.3 | 3.7 | Class II | See Fig. 2 |
| C505-CB290-E1000 | 1.5 | 2.0 | Traffic Green | 500 | 505 | 510 | 3.3 | 3.7 | Class II | See Fig. 2 |
| C525-CB290-E1000 | 1.0 | 1.5 | Green | 520 | 525 | 535 | 3.3 | 3.7 | Class II | See Fig. 2 |

All measurements taken at 20mA.

ULTRABRIGHT™ GaN LEDs



| | Brightness (mW) | | Color | Peak Wavelength (nm) | | | Forward Voltage | | ESD Rating | Dimensions |
|------------------|-----------------|-----|-------|----------------------|-----|-----|-----------------|-----|------------|------------|
| | Min | Typ | | Min | Typ | Max | Typ | Max | | |
| C430-UB290-E1000 | 1.4 | 2.0 | Blue | 426 | 428 | 430 | 4.2 | 4.7 | Class II | See Fig. 3 |

All measurements taken at 20mA.

ULTRABRIGHT™ InGaN LEDs

| | Brightness (mW) | | Color | Dominant Wavelength (nm) | | | Forward Voltage | | ESD Rating | Dimensions |
|------------------|-----------------|-----|---------------|--------------------------|-----|-----|-----------------|-----|------------|------------|
| | Min | Typ | | Min | Typ | Max | Typ | Max | | |
| C460-UB290-E1000 | 3.8 | 5.5 | Deep Blue | 455 | 460 | 465 | 3.5 | 3.9 | Class II | See Fig. 3 |
| C460-UB291-E1000 | 3.8 | 5.5 | Deep Blue | 455 | 460 | 465 | 3.5 | 3.9 | Class II | See Fig. 2 |
| C470-UB290-E1000 | 3.4 | 5.0 | Blue | 465 | 470 | 475 | 3.5 | 3.9 | Class II | See Fig. 3 |
| C470-UB291-E1000 | 3.4 | 5.0 | Blue | 465 | 470 | 475 | 3.5 | 3.9 | Class II | See Fig. 2 |
| C490-UB290-E1000 | 3.3 | 4.8 | Aqua Blue | 485 | 490 | 495 | 3.5 | 3.9 | Class II | See Fig. 3 |
| C505-UB290-E1000 | 2.5 | 3.5 | Traffic Green | 500 | 505 | 510 | 3.5 | 3.9 | Class II | See Fig. 3 |
| C525-UB290-E1000 | 1.7 | 3.0 | Green | 520 | 525 | 535 | 3.5 | 3.9 | Class II | See Fig. 3 |

All measurements taken at 20mA.

MEGABRIGHT™ InGaN LEDs

| | Brightness (mW) | | Color | Dominant Wavelength (nm) | | | Forward Voltage | | ESD Rating | Dimensions |
|------------------|-----------------|------|---------------|--------------------------|-----|-----|-----------------|-----|------------|------------|
| | Min | Typ | | Min | Typ | Max | Typ | Max | | |
| C460-MB290-E1000 | 8.0 | 11.0 | Deep Blue | 455 | 460 | 465 | 3.7 | 4.0 | Class II | See Fig. 3 |
| C470-MB290-E1000 | 7.5 | 10.0 | Blue | 465 | 470 | 475 | 3.7 | 4.0 | Class II | See Fig. 3 |
| C503-MB290-E1000 | 6.0 | 8.0 | Traffic Green | 498 | 503 | 508 | 3.8 | 4.0 | Class II | See Fig. 3 |
| C505-MB290-E1000 | 6.0 | 8.0 | Traffic Green | 500 | 505 | 510 | 3.8 | 4.0 | Class II | See Fig. 3 |
| C527-MB290-E1000 | 5.0 | 7.0 | Green | 520 | 525 | 535 | 3.8 | 4.0 | Class II | See Fig. 3 |

All measurements taken at 20mA.



MEGABRIGHT™ UltraViolet InGaN LEDs

| | Brightness (mW) | | Color | Peak Wavelength (nm) | | | Forward Voltage | | ESD Rating | Dimensions |
|-----------------|-----------------|------|-------|----------------------|-----|-----|-----------------|-----|------------|------------|
| | Min | Typ | | Min | Typ | Max | Typ | Max | | |
| C395-MB290-E400 | 9.0 | 11.0 | UV | 390 | 395 | 400 | 3.7 | 4.0 | Class I | See Fig. 3 |
| C400-MB290-E400 | 10.0 | 12.0 | UV | 390 | 400 | 410 | 3.7 | 4.0 | Class I | See Fig. 3 |
| C405-MB290-E400 | 10.0 | 12.0 | UV | 400 | 405 | 410 | 3.7 | 4.0 | Class I | See Fig. 3 |

All measurements taken at 20mA.

XBRIGHT™ InGaN LEDs

| | Brightness (mW) | | Color | Dominant Wavelength (nm) | | | Forward Voltage | | ESD Rating | Dimensions |
|--|-----------------|------|---------------|--------------------------|-----|-----|-----------------|-----|------------|------------|
| | Min | Typ | | Min | Typ | Max | Typ | Max | | |
| C460-XB290-E1000-A C460-XB290-E1000-B | 11.0 | 15.0 | Deep Blue | 455 | 460 | 465 | 3.7 | 4.0 | Class II | See Fig. 4 |
| C470-XB290-E1000-A C470-XB290-E1000-B | 11.0 | 14.0 | Blue | 465 | 470 | 475 | 3.7 | 4.0 | Class II | See Fig. 4 |
| C505-XB290-E1000-A C505-XB290-E1000-B | 8.5 | 11.0 | Traffic Green | 500 | 505 | 510 | 3.8 | 4.0 | Class II | See Fig. 4 |
| C527-XB290-E1000-A C527-XB290-E1000-B | 7.0 | 9.0 | Green | 520 | 527 | 535 | 3.8 | 4.0 | Class II | See Fig. 4 |

All measurements taken at 20mA. "-A" XB LEDs feature Au/Sn backside metalization. "-B" XB LEDs feature Au backside metalization.

XBRIGHT™ UltraViolet InGaN LEDs

| | Brightness (mW) | | Color | Peak Wavelength (nm) | | | Forward Voltage | | ESD Rating | Dimensions |
|--|-----------------|------|-------|----------------------|-----|-----|-----------------|-----|------------|------------|
| | Min | Typ | | Min | Typ | Max | Typ | Max | | |
| C395-XB290-E400-A C395-XB290-E400-B | 13.0 | 16.0 | UV | 390 | 395 | 400 | 3.7 | 4.0 | Class I | See Fig. 4 |
| C405-XB290-E400-A C405-XB290-E400-B | 14.0 | 17.0 | UV | 400 | 405 | 410 | 3.7 | 4.0 | Class I | See Fig. 4 |

All measurements taken at 20mA. "-A" XB LEDs feature Au/Sn backside metalization. "-B" XB LEDs feature Au backside metalization.

XBRIGHT™ 900 Power Chip™ LEDs

| | Brightness (mW) | | Color | Dominant Wavelength (nm) | | | Forward Voltage | | Dimensions |
|------------------------------|-----------------|-----|-------|--------------------------|-----|-----|-----------------|-----|------------|
| | Min | Typ | | Min | Typ | Max | Typ | Max | |
| C470-XB900-A C470-XB900-B | TBD | 150 | Blue | 465 | 470 | 475 | 3.7 | 4.0 | See Fig. 5 |

All measurements taken at 350mA. “-A” XB LEDs feature Au/Sn backside metalization. “-B” XB LEDs feature Au backside metalization.

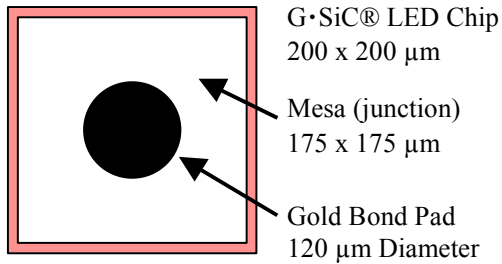
XBRIGHT™ 900 UltraViolet Power Chip™ LEDs

| | Brightness (mW) | | Color | Peak Wavelength (nm) | | | Forward Voltage | | Dimensions |
|------------------------------|-----------------|-----|-------|----------------------|-----|-----|-----------------|-----|------------|
| | Min | Typ | | Min | Typ | Max | Typ | Max | |
| C405-XB900-A C405-XB900-B | TBD | 250 | UV | 400 | 405 | 410 | 3.7 | 4.0 | See Fig. 5 |

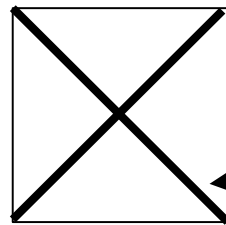
All measurements taken at 350mA. “-A” XB LEDs feature Au/Sn backside metalization. “-B” XB LEDs feature Au backside metalization.

Fig. 1

Topside View – CB230



Bottom View



Anode (+)
 $h = 250 \mu\text{m}$

Backside
Metallization
Cathode (-)

Die Cross Section

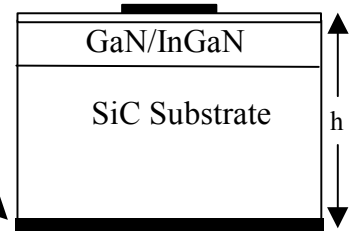
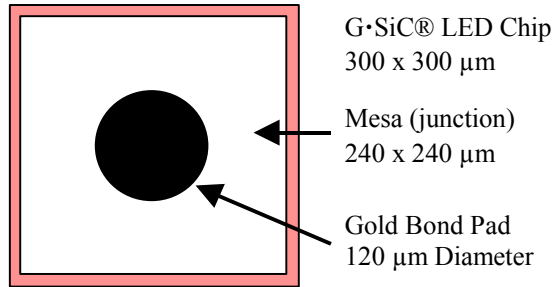
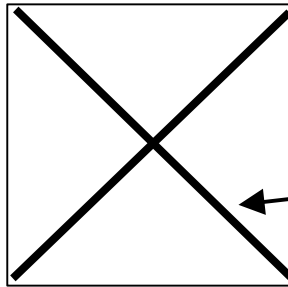


Fig. 2

Topside View – CB290 and UB291



Bottom View



Anode (+)
 $h = 250 \mu\text{m}$

Backside
Metallization
Cathode (-)

Die Cross Section

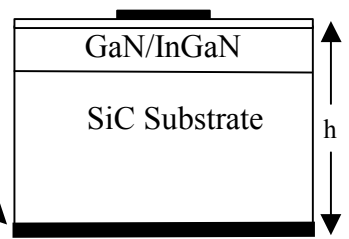


Fig. 3

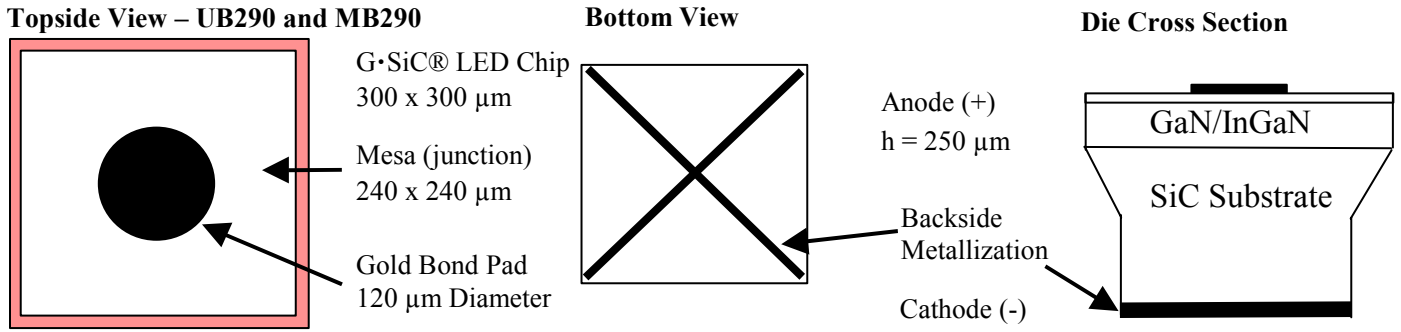


Fig. 4

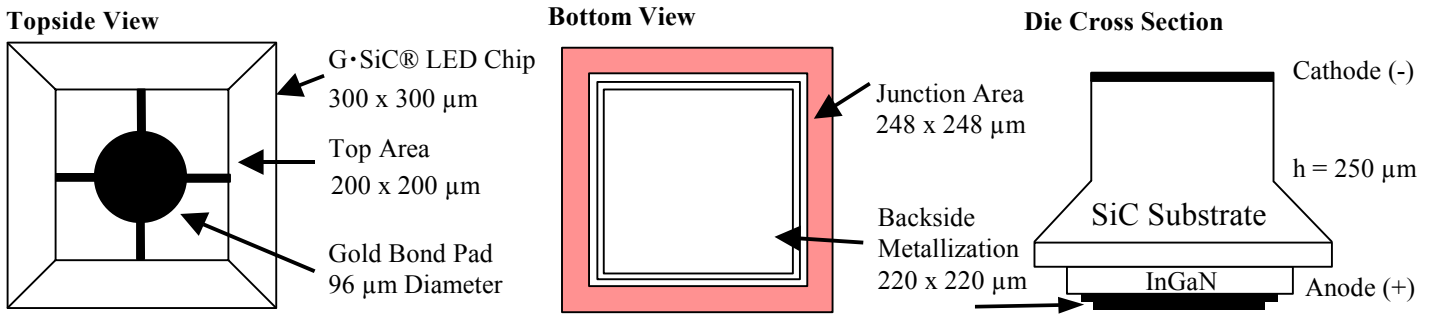


Fig. 5

