

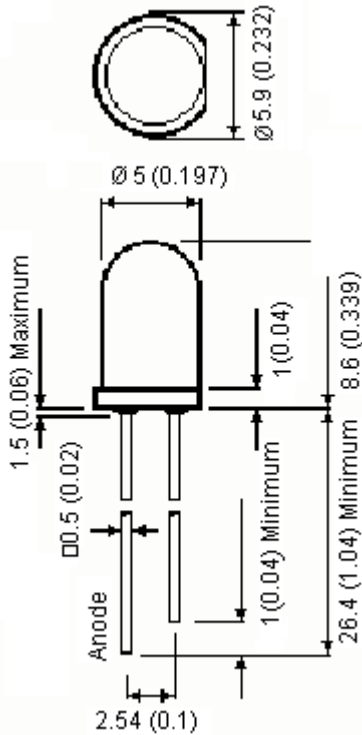


PART NO.

MCL053BGC

REVISIONS

| ECN # | REV | DESCRIPTION | DRAWN | DATE    | CHECKD | DATE    | APPRVD | DATE    |
|-------|-----|-------------|-------|---------|--------|---------|--------|---------|
| -     | A   | RELEASED    | SID   | 29/6/12 | AMU    | 29/6/12 |        | 13/7/12 |



Dimensions : Millimetres (Inches)

Electrical / Optical Characteristics at T<sub>a</sub> = 25°C

| Parameter                                     | Symbol    | Minimum | Typical | Maximum | Unit    | Test       |
|---|-----------|---------|---------|---------|---------|------------|
| Luminous Intensity                            | IV        | 8,000   | 14,500  | 21,000  | mcd     | IF = 20 mA |
| Viewing Angle                                 | 2θ 1/2    | -       | 16      | -       | degrees |            |
| Peak Emission Wavelength                      | λP        | -       | 505     | -       | nm      |            |
| Dominant Wavelength                           | λD        | -       | 510     | -       |         |            |
| Spectral Line Half-Width                      | Δλ        | -       | 40      | -       |         |            |
| Forward Voltage                               | VF        | 2.7     | 3.4     | 4       | V       | IF = 20 mA |
| Power Dissipation                             | Pd        | -       | -       | 85      | -       | -          |
| Peak Forward Current<br>Duty 1 / 10 at 1 KHz) | IF (Peak) | -       | -       | 100     | -       | -          |
| Recommended Operating<br>Current              | IF (Rec)  | -       | 20      | -       | mA      | -          |

Absolute Maximum Ratings (T<sub>a</sub> = 25°C)

|                               |                              |
|-------------------------------|------------------------------|
| Reverse Voltage               | 5 V                          |
| Reverse Current               | 10 μA (V <sub>R</sub> = 5 V) |
| Electrostatic Discharge (ESD) | 200 V                        |
| Operating Temperature Range   | -40°C to 85°C                |
| Storage Temperature Range     | -40°C to 100°C               |
| Lead Soldering Temperature    | 260°C for 5 Seconds          |

Specifications:

Dice Material : InGaN  
 Emitted Colour : Blue green  
 Epoxy Colour : Water clear  
 Peak Wavelength : 505 nm  
 Viewing Angle : 16 degrees  
 Luminous Intensity (IV) : 16,000 mcd



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|  |                    |                      |   |                             |                                       |                 |
|--|--------------------|----------------------|---|-----------------------------|---------------------------------------|-----------------|
| <b>TOLERANCES:</b><br><br><b>UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE FOR REFERENCE PURPOSES ONLY.</b> | <b>DRAWN BY:</b>   | <b>DATE:</b>         | <b>DRAWING TITLE:</b>                           |                             |                                       |                 |
|  | SID                | 29/06/12             | <b>5 mm Round LED Lamp - Ultra Blue / Green</b> |                             |                                       |                 |
|  | <b>CHECKED BY:</b> | <b>DATE:</b>         |   |                             |                                       |                 |
|  | AMU                | 29/06/12             | <b>SIZE</b><br>A                                | <b>DWG NO.</b><br>M10001260 | <b>ELECTRONIC FILE</b><br>L053BGC_DWG | <b>REV</b><br>A |
| <b>APPROVED BY:</b>  | <b>DATE:</b>       | <b>SCALE: NTS</b>    |   | <b>U.O.M.: mm</b>           |                                       |                 |
|  | 13/07/12           | <b>SHEET: 1 OF 2</b> |   |                             |                                       |                 |



PART NO.

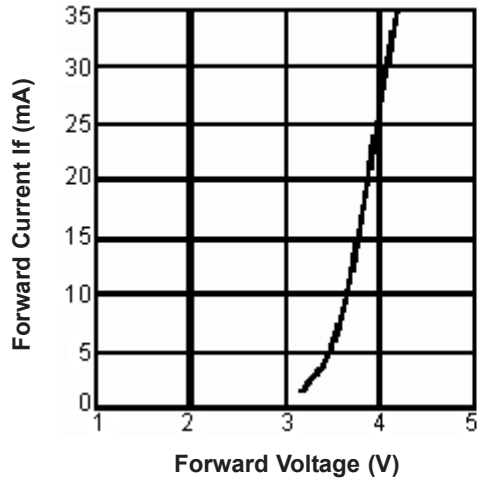
MCL053BGC

REVISIONS

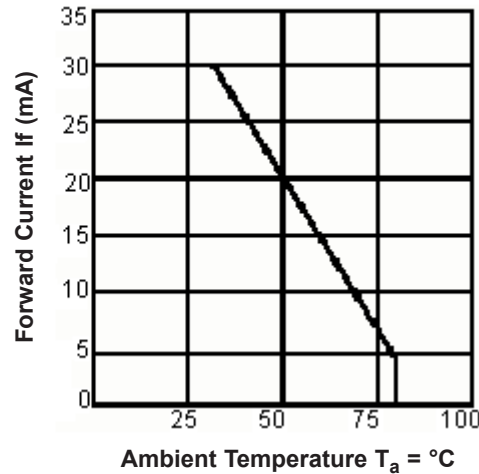
| ECN # | REV | DESCRIPTION | DRAWN | DATE    | CHECKD | DATE    | APPRVD | DATE    |
|-------|-----|-------------|-------|---------|--------|---------|--------|---------|
| -     | A   | RELEASED    | SID   | 29/6/12 | AMU    | 29/6/12 |        | 13/7/12 |

Blue Green (InGaN)  $\lambda_P = 505 \text{ nm}$

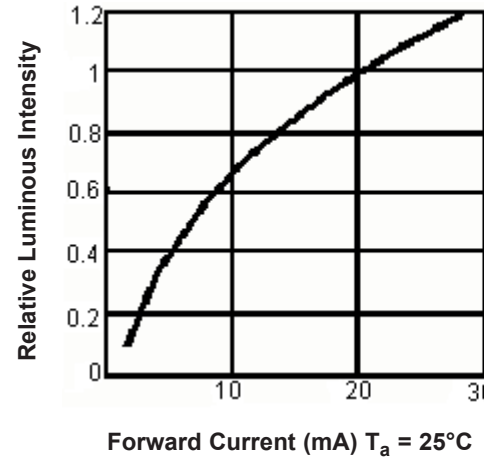
Forward Current vs. Forward Voltage



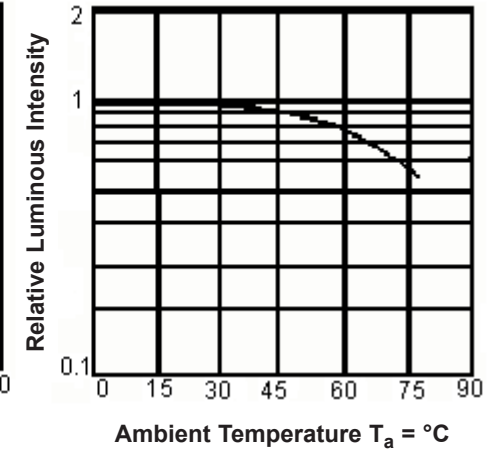
Forward Current Derating Curve



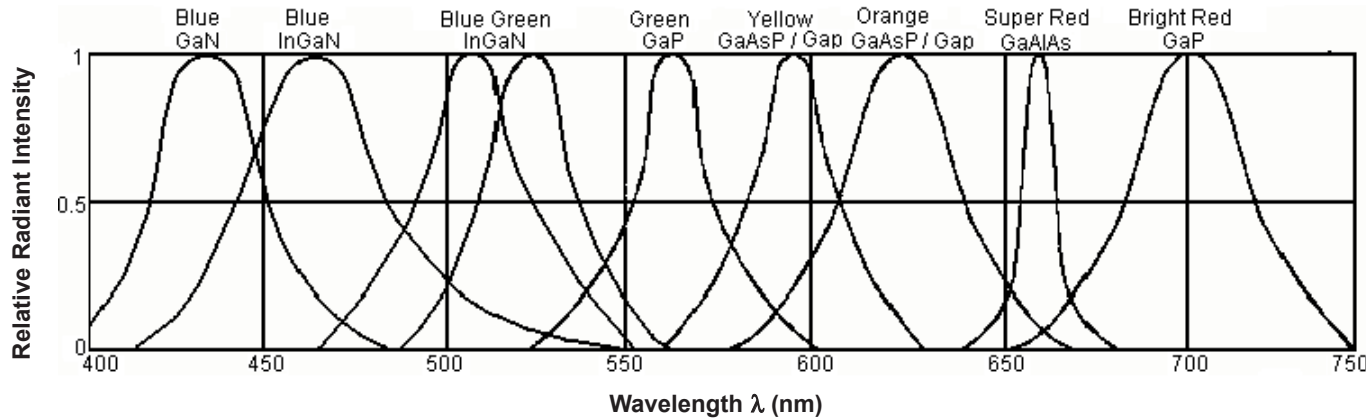
Luminous Intensity vs. Forward Current



Luminous Intensity vs. Ambient Temperature



Relative Intensity vs. Wavelength



Part Number Table

| Description                          | Part Number |
|--------------------------------------|-------------|
| Led, 5 mm, 16°, Ultra - Blue / Green | MCL053BGC   |

www.element14.com  
www.farnell.com  
www.newark.com

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|              |          |
|--------------|----------|
| DRAWN BY:    | DATE:    |
| SID          | 29/06/12 |
| CHECKED BY:  | DATE:    |
| AMU          | 29/06/12 |
| APPROVED BY: | DATE:    |
|              | 13/07/12 |

DRAWING TITLE:

**5 mm Round LED Lamp - Ultra Blue / Green**

|            |            |                 |     |
|------------|------------|-----------------|-----|
| SIZE       | DWG NO.    | ELECTRONIC FILE | REV |
| A          | M10001260  | L053BGC_DWG     | A   |
| SCALE: NTS | U.O.M.: mm | SHEET: 2 OF 2   |     |