



LED SPECIFICATION

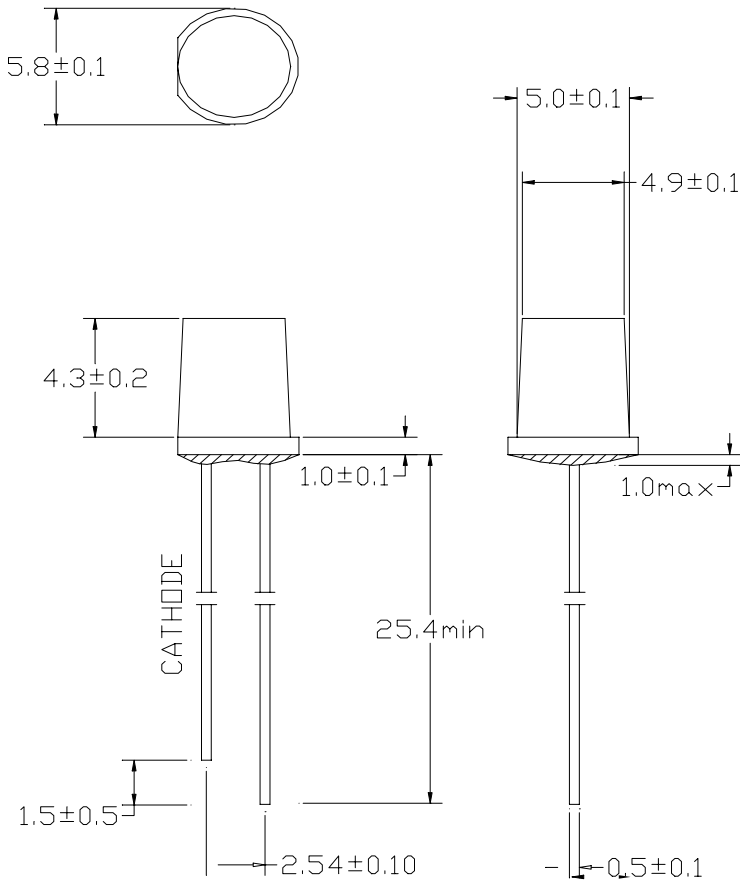
599MR2C

➤ Features:

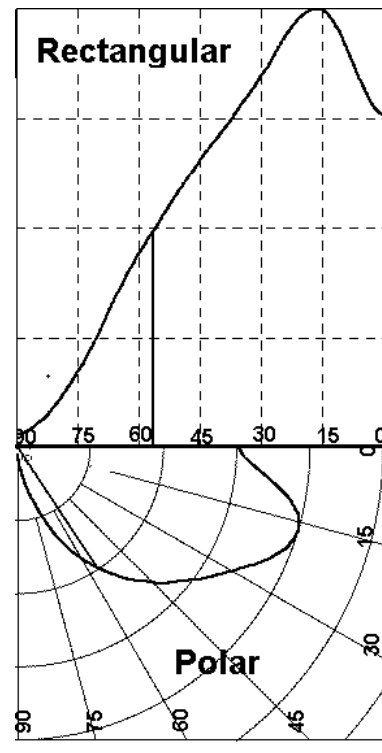
- Single color
- High bright output
- Large view angle
- Low power consumption
- High reliability and long life

➤ Descriptions:

- Dice material: AlGaInP
- Emitting Color: Super Bright Red
- Device Outline: ϕ 5mm Round Flat Top
- Lens Type: Water Clear



HALF LIGHT PATTERN:



1. All dimensions are millimeters: mm.
2. Tolerance is ± 0.25 mm unless otherwise noted.



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➤ Absolute maximum ratings (Ta = 25°C)

| Parameter | Symbol | Test Condition | Values | | Unit |
|-----------------------|-------------------|-------------------------|--------|------|------|
| | | | Min. | Max. | |
| Reverse Voltage | V _R | I _R = 30 μ A | 5 | -- | V |
| Forward Current | I _F | ---- | ---- | 30 | mA |
| Power Dissipation | P _d | ---- | ---- | 75 | mW |
| Pulse Current | I _{peak} | Duty=0.1mS, 1kHz | ---- | 100 | mA |
| Operating Temperature | T _{opr} | ---- | -20 | +85 | °C |
| Storage Temperature | T _{str} | ---- | -25 | +100 | °C |

➤ Electrical and optical characteristics (Ta = 25°C)

| Parameter | Symbol | Test Condition | Values | | | Unit |
|--------------------------|----------------|----------------------|--------|------|------|------|
| | | | Min. | Typ. | Max. | |
| Forward Voltage | V _F | I _F =20mA | 1.8 | 2.0 | 2.4 | V |
| Reverse Current | I _R | V _R =5V | ---- | ---- | 30 | μ A |
| Dominate Wavelength | λ _d | I _F =20mA | 618 | 624 | 627 | nm |
| Peak Wavelength | λ _p | I _F =20mA | ---- | 621 | ---- | nm |
| Spectral Line half-width | Δ λ | I _F =20mA | ---- | 20 | ---- | nm |
| Luminous Intensity | I _v | I _F =20mA | ---- | 550 | ---- | mcd |
| Viewing Angle | 2 θ 1/2 | I _F =20mA | ---- | 100 | ---- | deg. |

➤ Luminous Intensity Bins (Ta = 25°C)

Unit:mcd

| Bin | N | P | Q | R |
|-----|-----|-----|-----|-----|
| Min | 200 | 280 | 390 | 550 |
| Max | 280 | 390 | 550 | 770 |

➤ Dominate wavelength Bins (Ta = 25°C)

Unit:nm

| Bin | R1 | R2 | R3 |
|-----|-----|-----|-----|
| Min | 618 | 621 | 624 |
| Max | 621 | 624 | 627 |

➤ Forward Current Bins (Ta = 25°C)

Unit:V

| Bin | V2 | V3 | V4 |
|-----|-----|-----|-----|
| Min | 1.8 | 2.0 | 2.2 |
| Max | 2.0 | 2.2 | 2.4 |



BIN ranking for LEDs

BRIGHTNESS BIN

| Bin Code | IV(mcd) | Bin Code | IV(mcd) | Bin Code | IV(mcd) | Bin Code | IV(mcd) |
|----------|-----------|----------|-----------|----------|-----------|----------|------------|
| A | 0-5.0 | H | 37.2-52.0 | Q | 390-550 | X | 4180--5860 |
| B | 5.0-7.0 | J | 52.0-72.8 | R | 550-770 | Y | 5860-8200 |
| C | 7.0-9.8 | K | 72.8-102 | S | 770-1100 | Z1 | 8-10cd |
| D | 9.8-13.7 | L | 102-145 | T | 1100-1520 | Z2 | 10-12cd |
| E | 13.7-19.0 | M | 145-200 | U | 1520-2130 | Z3 | 12-14cd |
| F | 19.0-26.6 | N | 200-280 | V | 2130-3000 | Z4 | 14-16cd |
| G | 26.6-37.2 | P | 280-390 | W | 3000-4180 | Z5 | 16-18cd |

WAVELENGTH BIN

| Ligth Col. | Bin Code | Wavel. (nm) | Ligth Col. | Bin Code | Wavel. (nm) |
|-------------------|----------|-------------|----------------------|----------|-------------|
| BLUE | B1 | 450-455 | YELLOW GREEN | YG1 | 555-558 |
| | B2 | 455-460 | | YG2 | 558-561 |
| | B3 | 460-465 | | YG3 | 561-564 |
| | B4 | 465-470 | | YG4 | 564-567 |
| | B5 | 470-475 | | YG5 | 567-570 |
| | B6 | 475-480 | | YG6 | 570-573 |
| BLUE GREEN | G1 | 491-494 | | YG7 | 573-576 |
| | G2 | 494-497 | YELLOW | Y1 | 582-585 |
| | G3 | 497-500 | | Y2 | 585-588 |
| | G4 | 500-503 | | Y3 | 588-591 |
| | G5 | 503-506 | | Y4 | 591-594 |
| | G6 | 506-509 | | Y5 | 594-597 |
| | G7 | 509-512 | YELLOW ORANGE | YO1 | 597-600 |
| | G8 | 512-515 | | YO2 | 600-603 |
| PURE GREEN | G9 | 515-518 | YO3 | 603-606 | |
| | G10 | 518-521 | YO4 | 606-609 | |
| | G11 | 521-524 | PURE ORANGE | O1 | 609-612 |
| | G12 | 524-527 | | O2 | 612-615 |
| | G13 | 527-530 | | O3 | 615-618 |
| | G14 | 530-533 | RED | R1 | 618-621 |
| | G15 | 533-536 | | R2 | 621-624 |
| | G16 | 536-539 | | R3 | 624-627 |
| | G17 | 539-542 | | R4 | 627-630 |
| | G18 | 542-545 | | R5 | 630-633 |
| | G19 | 545-548 | | R6 | 633-636 |

FORWARD VOLTAGE (VF) BIN

| Bin Code | VF (V) | Bin Code | VF (V) | Bin Code | VF (V) | Bin Code | VF (V) |
|----------|---------|----------|---------|----------|---------|----------|---------|
| V1 | 1.6-1.8 | V5 | 2.4-2.6 | V9 | 3.2-3.4 | V13 | 4.0-4.2 |
| V2 | 1.8-2.0 | V6 | 2.6-2.8 | V10 | 3.4-3.6 | V14 | 4.2-4.4 |
| V3 | 2.0-2.2 | V7 | 2.8-3.0 | V11 | 3.6-3.8 | V15 | 4.4-4.6 |
| V4 | 2.2-2.4 | V8 | 3.0-3.2 | V12 | 3.8-4.0 | V16 | 4.6-4.8 |



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➤ Typical electrical/optical characteristic curves:

