

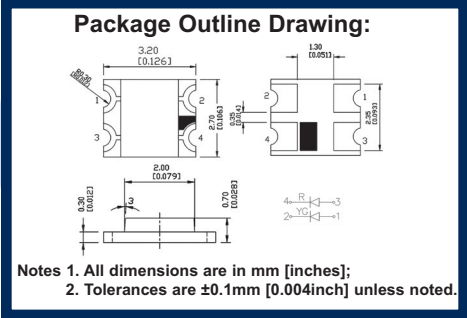
# Dialight

## Micro LED® SMD LED “598 SERIES” 1210 PACKAGE (3.2mm X 2.7mm X 0.7mm) Bi-Color



### FEATURES / BENEFITS

- ▲ Compatible with automatic placement equipment
- ▲ RoHS compliant
- ▲ Packaged in 8mm tape, 7" reel and 20 per strip
- ▲ Meets EIA-481-1 pkg. std.



### ORDERING INFORMATION

5 9 8 - 8 6 1 0 - 2 0 7 F  
 Packaging Option

|   |                        |
|---|------------------------|
| 2 | 20 pieces on tape      |
| 7 | 7" reel 3000pcs / reel |

## PART NUMBERS

| Dialight P/N  | EMITTED COLOR | MATERIAL | LENS COLOR  | LUMINOUS INTENSITY |     |     | DOMINANT WAVELENGTH |     |     | FORWARD VOLTAGE |     |     | VIEWING ANGLE<br>° DEGREES | PINOUT               |
|---------------|---------------|----------|-------------|--------------------|-----|-----|---------------------|-----|-----|-----------------|-----|-----|----------------------------|----------------------|
|               |               |          |             | If = 20 ma         |     |     | If = 20 ma          |     |     | If = 20 ma      |     |     |                            |                      |
|               |               |          |             | MIN                | TYP | MAX | MIN                 | TYP | MAX | MIN             | TYP | MAX |                            |                      |
| 598-8610-207F | RED           | AlInGaP  | Water Clear | 40                 | 60  | 80  | 630                 | 635 | 645 | 1.8             | 2   | 2.4 | 140                        | 4 →  → 3<br>2 →  → 1 |
|               | GREEN         | AlInGaP  | Water Clear | 30                 | 40  | 50  | 562                 | 568 | 570 | 1.8             | 2   | 2.4 | 140                        |                      |
| 598-8621-207F | RED-ORANGE    | AlInGaP  | Water Clear | 80                 | 100 | 120 | 620                 | 625 | 630 | 1.8             | 2   | 2.4 | 140                        | 4 →  → 3<br>2 →  → 1 |
|               | GREEN         | InGaP    | Water Clear | 200                | 220 | 240 | 520                 | 525 | 530 | 2.7             | 3.2 | 3.5 | 140                        |                      |
| 598-8630-207F | ORANGE        | AlInGaP  | Water Clear | 80                 | 100 | 150 | 600                 | 605 | 610 | 1.8             | 2.2 | 2.4 | 140                        | 4 →  → 3<br>2 →  → 1 |
|               | GREEN         | AlInGaP  | Water Clear | 30                 | 40  | 50  | 562                 | 568 | 570 | 1.8             | 2.2 | 2.4 | 140                        |                      |
| 598-8640-207F | YELLOW        | AlInGaP  | Water Clear | 90                 | 110 | 150 | 587                 | 590 | 592 | 1.8             | 2   | 2.4 | 140                        | 4 →  → 3<br>2 →  → 1 |
|               | GREEN         | AlInGaP  | Water Clear | 30                 | 40  | 50  | 562                 | 568 | 570 | 1.8             | 2   | 2.4 | 140                        |                      |
| 598-8650-207F | YELLOW        | AlInGaP  | Water Clear | 80                 | 100 | 120 | 587                 | 590 | 592 | 1.8             | 2   | 2.4 | 140                        | 4 →  → 3<br>2 →  → 1 |
|               | GREEN         | InGaP    | Water Clear | 90                 | 150 | 220 | 520                 | 525 | 530 | 2.7             | 3.2 | 3.5 | 140                        |                      |
| 598-8660-207F | YELLOW        | AlInGaP  | Water Clear | 90                 | 110 | 150 | 587                 | 590 | 592 | 1.8             | 2.2 | 2.4 | 140                        | 4 →  → 3<br>2 →  → 1 |
|               | RED           | AlInGaP  | Water Clear | 40                 | 60  | 80  | 630                 | 635 | 645 | 1.8             | 2.2 | 2.4 | 140                        |                      |
| 598-8670-207F | RED           | AlInGaP  | Water Clear | 40                 | 60  | 80  | 630                 | 635 | 640 | 1.8             | 2.2 | 2.4 | 140                        | SEE EXAMPLE          |
|               | YELLOW-GREEN  | AlInGaP  | Water Clear | 30                 | 40  | 65  | 570                 | -   | 575 | 1.8             | 2.2 | 2.4 | 140                        |                      |
| 598-8680-207F | GREEN         | InGaP    | Water Clear | 200                | 260 | 300 | 520                 | 525 | 530 | 2.7             | 3.2 | 3.5 | 140                        | 4 →  → 3<br>2 →  → 1 |
|               | BLUE          | InGaP    | Water Clear | 40                 | 60  | 90  | 465                 | 470 | 475 | 3               | 3.2 | 3.4 | 140                        |                      |

## ABSOLUTE RATINGS (@ Ta = 25°C)

| Dialight P/N  | Power Dissipation | Forward Current | Reverse Voltage | Operating Temperature Range | Storage Temperature Range | Peak Pulse Forward Current | Electrostatic Discharge |
|---------------|-------------------|-----------------|-----------------|-----------------------------|---------------------------|----------------------------|-------------------------|
|               | (mW)              | (mA)            | (V)             | (°C)                        | (°C)                      | (mA)                       | (HBM)                   |
| 598-8610-207F | 48                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
|               | 48                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
| 598-8621-207F | 60                | 20              | 5               | -30~+85                     | -40~+100                  | 100                        | 1500                    |
|               | 87.5              | 20              | 5               | -30~+85                     | -40~+100                  | 100                        | 1500                    |
| 598-8630-207F | 48                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
|               | 48                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
| 598-8640-207F | 48                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
|               | 48                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
| 598-8650-207F | 48                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
|               | 70                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
| 598-8660-207F | 48                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
|               | 48                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
| 598-8670-207F | 48                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
|               | 48                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
| 598-8680-207F | 70                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 1000                    |
|               | 68                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 1000                    |



A4703



ISO 9001



**PRELIMINARY**

Dialight reserves the right to make changes at any time in order to supply the best product possible.

Contact us directly for the latest information.

### Dialight Corporation

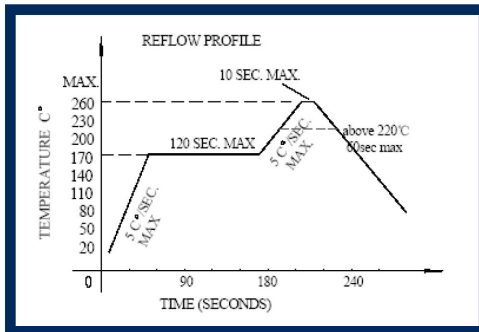
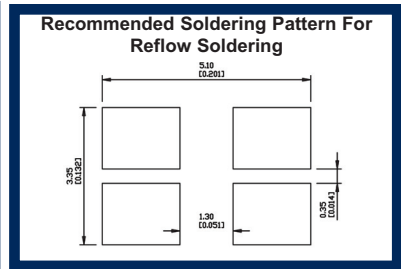
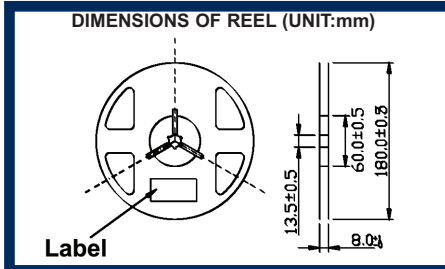
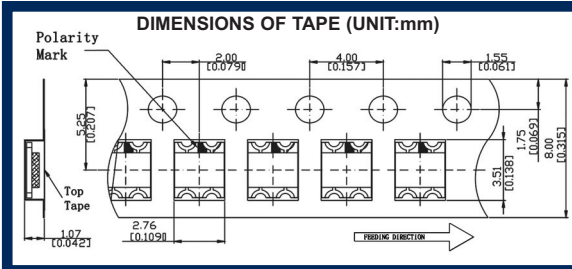
1501 Route 34 South • Farmingdale, NJ 07727 USA

Tel: (1) 732-919-3119 • Fax: (1) 732-751-5778 • www.dialight.com



MDEI5981210BI\_01

### MECHANICAL DIMENSIONS

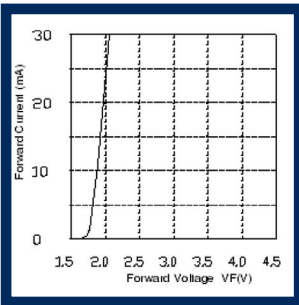


| REFLOW SOLDERING |                               | HAND SOLDERING |                              |
|------------------|-------------------------------|----------------|------------------------------|
| Pre-heat         | 160~180°C                     | Temperature    | 300°C Max.                   |
| Pre-heat time    | 120 seconds Max.              |                |                              |
| Peak temperature | 260°C Max.                    | Soldering time | 3 second Max (one time only) |
| Soldering time   | 10 seconds Max.               |                |                              |
| Condition        | Refer to temperature -profile |                |                              |

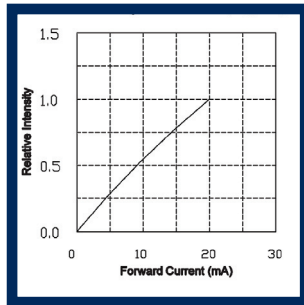
### OPTICAL AND ELECTRICAL CHARACTERISTICS CURVES

RED 630-642NM, RED-ORANGE 620-630NM, ORANGE 600-610NM, YELLOW 590-595NM, YELLOW 583-590NM, YELLOW GREEN 570-575NM, GREEN 562-570NM

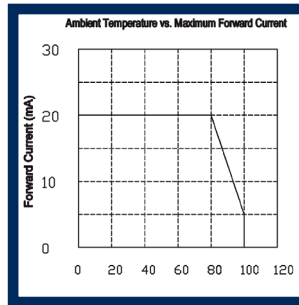
FORWARD VOLTAGE VS FORWARD CURRENT (Ta=25°C)



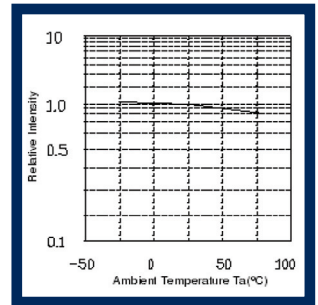
RELATIVE INTENSITY VS FORWARD CURRENT (Ta=25°C)



DERATING

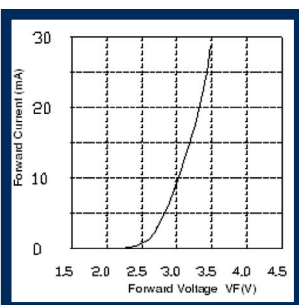


RELATIVE INTENSITY VS AMBIENT TEMPERATURE

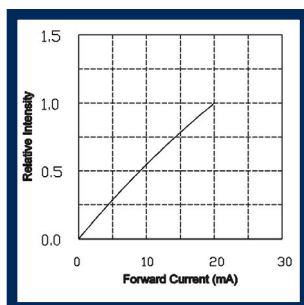


GREEN 520-525NM, BLUE 470-475NM

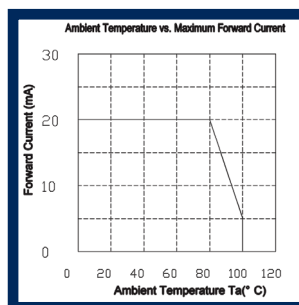
FORWARD VOLTAGE VS FORWARD CURRENT (Ta=25°C)



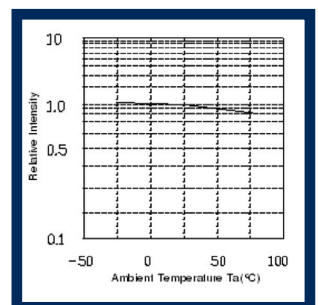
RELATIVE INTENSITY VS FORWARD CURRENT (Ta=25°C)



DERATING



RELATIVE INTENSITY VS AMBIENT TEMPERATURE



A4703



ISO 9001

Dialight Corporation



**PRELIMINARY**

Dialight reserves the right to make changes at any time in order to supply the best product possible.

Contact us directly for the latest information.

1501 Route 34 South • Farmingdale, NJ 07727 USA  
Tel: (1) 732-919-3119 • Fax: (1) 732-751-5778 • www.dialight.com



MDEI5981210BI\_01