

# Dialight

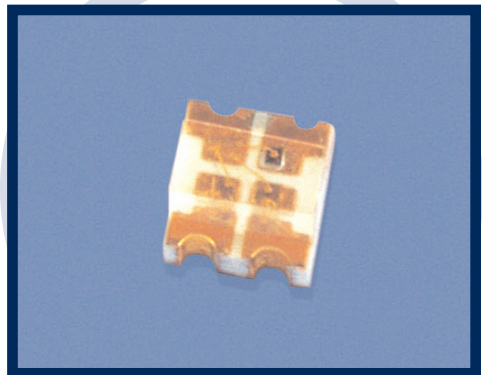
## Micro LED® SMD LED

### "598 SERIES" 0606 PACKAGE

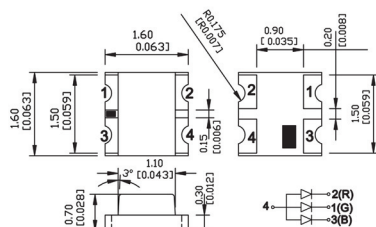
(1.6mm X 1.6mm X 0.7mm) Tri-Color

## 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.



Package Outline Drawing:



Notes 1. All dimensions are in mm [inches];  
2. Tolerances are  $\pm 0.1\text{mm}$  [0.004inch] unless noted.

## ORDERING INFORMATION

5 9 8 - 8 7 1 0 - 3 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 | PINOUT      |
|---------------|---------------|----------|-------------|--------------------|-----|-----|---------------------|-----|-----|-----------------|-----|-----|---------------|-------------|
|               |               |          |             | If = 20 ma         |     |     | If = 20 ma          |     |     | If = 20 ma      |     |     | ° DEGREES     |             |
|               |               |          |             | MIN                | TYP | MAX | MIN                 | TYP | MAX | MIN             | TYP | MAX |               |             |
| 598-8710-307F | RED           | AlInGaP  | WATER CLEAR | 40                 | 60  | 80  | 630                 | 635 | 645 | 1.9             | 2   | 2.2 | 140           | SEE EXAMPLE |
|               | GREEN         | InGaP    | WATER CLEAR | 90                 | 120 | 220 | 520                 | 525 | 530 | 2.8             | 3.2 | 3.5 | 140           |             |
|               | BLUE          | InGaP    | WATER CLEAR | 60                 | 90  | 140 | 465                 | 470 | 475 | 2.8             | 3.2 | 3.5 | 140           |             |
| 598-8720-307F | RED-ORANGE    | AlInGaP  | WATER CLEAR | 60                 | 80  | 150 | 620                 | 625 | 630 | 1.8             | 2.2 | 2.4 | 140           |             |
|               | GREEN         | InGaP    | WATER CLEAR | 90                 | 150 | 220 | 520                 | 525 | 530 | 2.8             | 3   | 3.5 | 140           |             |
|               | BLUE          | InGaP    | WATER CLEAR | 40                 | 60  | 90  | 465                 | 470 | 475 | 3               | 3.2 | 3.5 | 140           |             |
| 598-8721-307F | RED-ORANGE    | AlInGaP  | WATER CLEAR | 60                 | 80  | 150 | 620                 | 625 | 630 | 1.8             | 2.2 | 2.4 | 140           |             |
|               | GREEN         | InGaP    | WATER CLEAR | 90                 | 150 | 220 | 520                 | 525 | 530 | 2.8             | 3   | 3.5 | 140           |             |
|               | BLUE          | InGaP    | WATER CLEAR | 40                 | 60  | 90  | 465                 | 470 | 475 | 3               | 3.2 | 3.5 | 140           |             |
| 598-8730-307F | ORANGE        | AlInGaP  | WATER CLEAR | 70                 | 120 | 150 | 600                 | 605 | 610 | 1.8             | 2.2 | 2.4 | 140           |             |
|               | GREEN         | InGaP    | WATER CLEAR | 150                | 220 | 300 | 520                 | 525 | 530 | 2.8             | 3.2 | 3.5 | 140           |             |
|               | BLUE          | InGaP    | WATER CLEAR | 60                 | 90  | 140 | 465                 | 470 | 475 | 2.8             | 3.2 | 3.5 | 140           |             |
| 598-8740-307F | YELLOW        | AlInGaP  | WATER CLEAR | 90                 | 110 | 150 | 587                 | 590 | 595 | 1.8             | 2.2 | 2.4 | 140           |             |
|               | GREEN         | InGaP    | WATER CLEAR | 150                | 220 | 300 | 520                 | 525 | 530 | 2.8             | 3.2 | 3.5 | 140           |             |
|               | BLUE          | InGaP    | WATER CLEAR | 60                 | 90  | 140 | 465                 | 470 | 475 | 2.8             | 3.2 | 3.5 | 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)                   |
| 598-8710-307F | 44                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
|               | 70                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
|               | 70                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
| 598-8720-307F | 48                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
|               | 70                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
|               | 70                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
| 598-8721-307F | 48                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
|               | 70                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
|               | 70                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
| 598-8730-307F | 48                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
|               | 70                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
|               | 70                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
| 598-8740-307F | 48                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
|               | 70                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |
|               | 70                | 20              | 5               | -40~+100                    | -40~+100                  | 100                        | 2000                    |



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

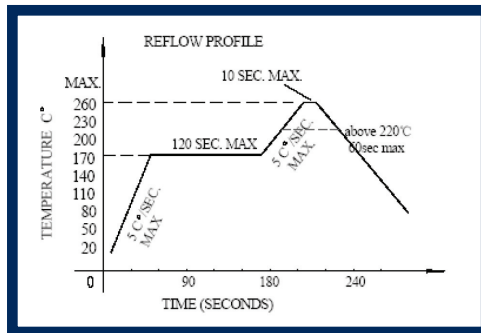
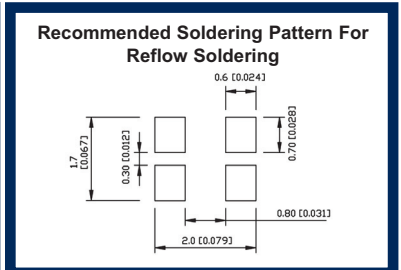
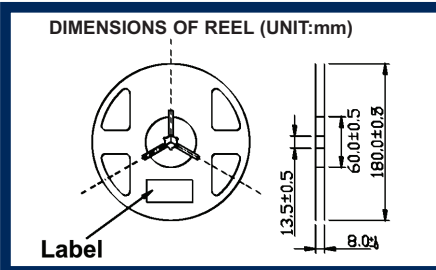
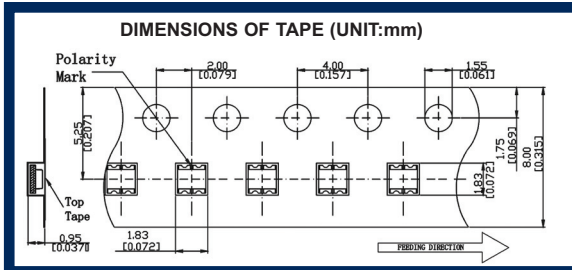
1501 Route 34 South • Farmingdale, NJ 07727 USA

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



MDEI5980606TRI\_A

### MECHANICAL DIMENSIONS

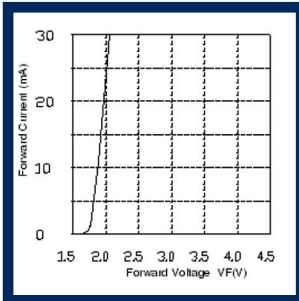


| REFLOW SOLDERING |                               | HAND SOLDERING |                              |
|------------------|-------------------------------|----------------|------------------------------|
| Pre-heat         | 160~180°C                     | Temperature    | 300°C Max.                   |
| 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 |                |                              |

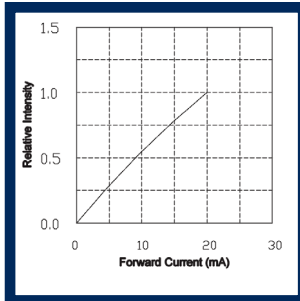
### OPTICAL AND ELECTRICAL CHARACTERISTICS CURVES

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

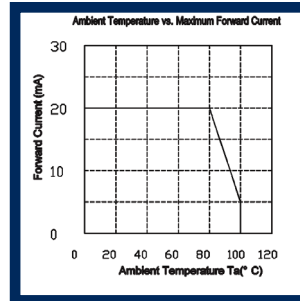
FORWARD VOLTAGE VS FORWARD CURRENT (Ta=25°C)



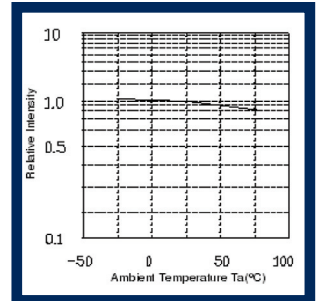
RELATIVE INTENSITY VS FORWARD CURRENT (Ta=25°C)



DERATING

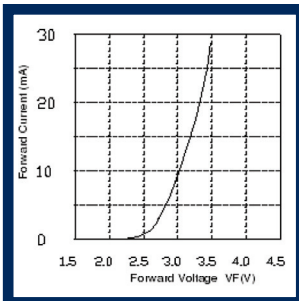


RELATIVE INTENSITY VS AMBIENT TEMPERATURE

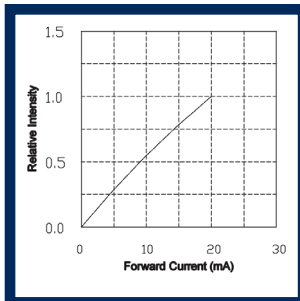


GREEN 520-525NM, BLUE 470-475NM

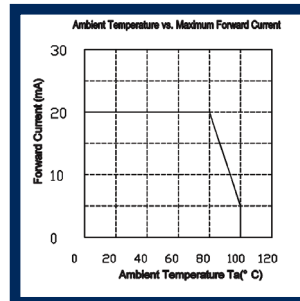
FORWARD VOLTAGE VS FORWARD CURRENT (Ta=25°C)



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



DERATING



RELATIVE INTENSITY VS AMBIENT TEMPERATURE

