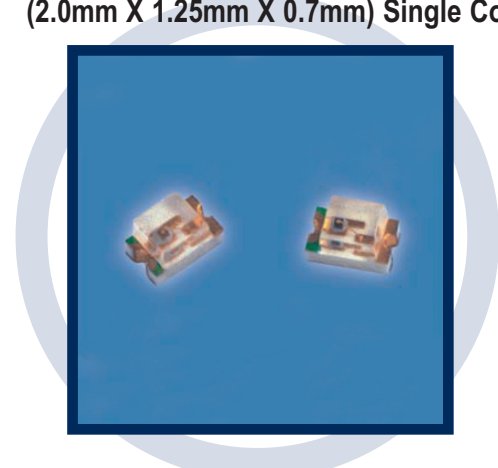




## FEATURES / BENEFITS

- ▲ 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:

The drawing shows three views of a package with a 1.6mm pitch:

- Top View:** Shows a central rectangular area with a width of 2.00 mm [0.079 inches]. On the left, there is a semi-circular feature with a radius of R0.20 mm [0.008 inches] and a flat edge of 0.13 mm [0.005 inches]. A "Polarity Mark" is indicated on the left edge. On the right, there is a semi-circular feature with a radius of R0.25 mm [0.009 inches]. The overall height is 1.25 mm [0.049 inches].
- Side View:** Shows a cross-section with a top width of 1.40 mm [0.055 inches] and a 3° angle. The bottom width is 0.30 mm [0.012 inches]. The total height is 0.70 mm [0.028 inches].
- Front View:** Shows a central rectangular area with a width of 1.20 mm [0.047 inches]. The overall width is 1.00 mm [0.039 inches]. The package is labeled with "1" on the left and "2" on the right, with a triangular symbol pointing towards "2".

**Notes**

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

**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 1 1 0 - 1 0 **7** F  
Packaging Option

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

20 pieces on tape

7" reel 3000pcs / reel

## PART NUMBERS

| DIALIGHT P/N  | EMITTED COLOR | MATERIAL | LENS COLOR  | LUMINOUS INTENSITY |     |     | DOMINANT WAVELENGTH |     |     | FORWARD VOLTAGE |     |     | VIEWING ANGLE |
|---------------|---------------|----------|-------------|--------------------|-----|-----|---------------------|-----|-----|-----------------|-----|-----|---------------|
|               |               |          |             | If = 20 ma         |     |     | If = 20 ma          |     |     | If = 20 ma      |     |     |               |
|               |               |          |             | MIN                | TYP | MAX | MIN                 | TYP | MAX | MIN             | TYP | MAX |               |
| 598-8110-107F | RED           | AlInGaP  | Water Clear | 30                 | 40  | 80  | 630                 | 635 | 642 | 1.7             | 2.2 | 2.4 | 140           |
| 598-8120-107F | RED-ORANGE    | AlInGaP  | Water Clear | 120                | 150 | 200 | 620                 | 625 | 630 | 1.7             | 2   | 2.4 | 140           |
| 598-8130-107F | ORANGE        | AlInGaP  | Water Clear | 70                 | -   | 150 | 600                 | -   | 610 | 1.7             | 2   | 2.4 | 140           |
| 598-8140-107F | YELLOW        | AlInGaP  | Water Clear | 100                | 130 | 160 | 590                 | -   | 595 | 1.7             | 2   | 2.4 | 140           |
| 598-8150-107F | YELLOW        | AlInGaP  | Water Clear | 100                | 130 | 160 | 583                 | -   | 590 | 1.7             | 2   | 2.4 | 140           |
| 598-8160-107F | YELLOW-GREEN  | AlInGaP  | Water Clear | 20                 | 40  | 60  | 570                 | -   | 575 | 1.8             | 2   | 2.4 | 140           |
| 598-8170-107F | GREEN         | GaP      | Water Clear | 10                 | 20  | 40  | 562                 | -   | 570 | 1.8             | 2   | 2.4 | 140           |
| 598-8180-107F | GREEN         | InGaN    | Water Clear | 150                | 220 | 300 | 520                 | 523 | 525 | 3               | 3.2 | 3.5 | 140           |
| 598-8181-107F | GREEN         | InGaN    | Water Clear | 220                | 300 | 400 | 520                 | 523 | 525 | 3               | 3.2 | 3.5 | 140           |
| 598-8190-107F | BLUE          | InGaN    | Water Clear | 60                 | 90  | 140 | 470                 | 473 | 475 | 2.8             | 3.2 | 3.5 | 140           |
| 598-8191-107F | BLUE          | InGaN    | Water Clear | 90                 | 140 | 160 | 470                 | 473 | 475 | 2.8             | 3.2 | 3.5 | 140           |

### ABSOLUTE RATINGS (@ T<sub>a</sub> = 25°C)

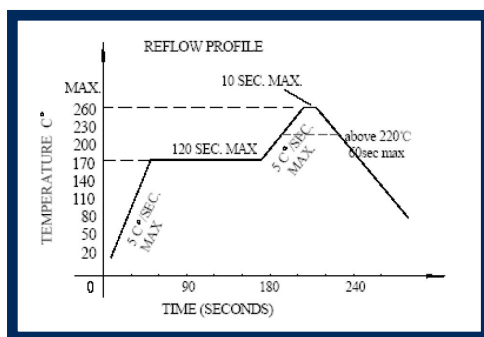
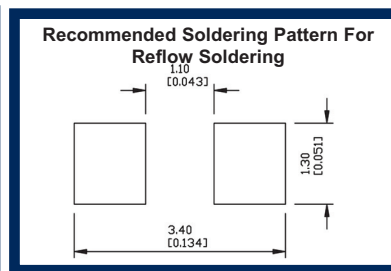
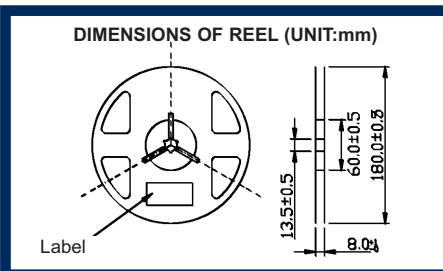
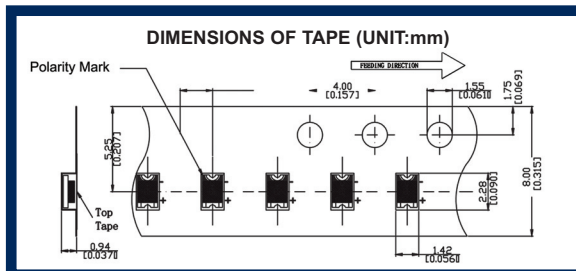
| DIALIGHT P/N  | Power Dissipation | Forward Current | Reverse Voltage | Operating Temperature Range | Storage Temperature Range | Peak Pulse Forward Current | Electrostatic Discharge |
|---------------|-------------------|-----------------|-----------------|-----------------------------|---------------------------|----------------------------|-------------------------|
|               | (mW)              | (mA)            | (V)             | (°C)                        | (°C)                      | (mA)                       | (HBM)                   |
| 598-8110-107F | 60                | 25              | 5               | -30~+85                     | -40~+100                  | 100                        | 2000                    |
| 598-8120-107F | 60                | 25              | 5               | -30~+85                     | -40~+100                  | 100                        | 2000                    |
| 598-8130-107F | 55                | 25              | 5               | -30~+85                     | -40~+100                  | 100                        | 2000                    |
| 598-8140-107F | 55                | 25              | 5               | -30~+85                     | -40~+100                  | 100                        | 2000                    |
| 598-8150-107F | 55                | 25              | 5               | -30~+85                     | -40~+100                  | 100                        | 2000                    |
| 598-8160-107F | 60                | 25              | 5               | -30~+85                     | -40~+100                  | 100                        | 2000                    |
| 598-8170-107F | 60                | 25              | 5               | -30~+85                     | -40~+100                  | 100                        | 2000                    |
| 598-8180-107F | 87.5              | 25              | 5               | -30~+85                     | -40~+100                  | 100                        | 1000                    |
| 598-8181-107F | 87.5              | 25              | 5               | -30~+85                     | -40~+100                  | 100                        | 2000                    |
| 598-8190-107F | 87.5              | 25              | 5               | -30~+85                     | -40~+100                  | 100                        | 1000                    |
| 598-8191-107F | 87.5              | 25              | 5               | -30~+85                     | -40~+100                  | 100                        | 1000                    |

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### MECHANICAL DIMENSIONS

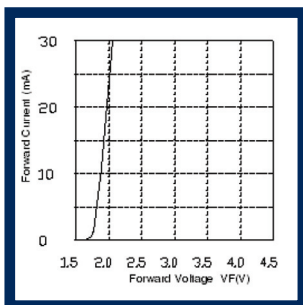


| REFLOW SOLDERING |                               | HAND SOLDERING |                              |
|------------------|-------------------------------|----------------|------------------------------|
| Pre-heat         | 160~180°C                     | Temperature    | 300°C Max.                  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

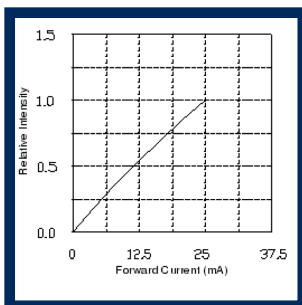
### OPTICAL AND ELECTRICAL CHARACTERISTICS CURVES

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

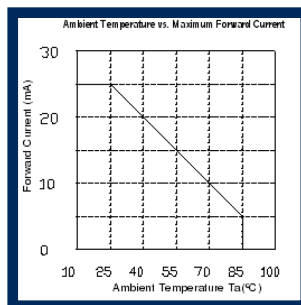
FORWARD VOLTAGE VS FORWARD CURRENT (Ta=25°C)



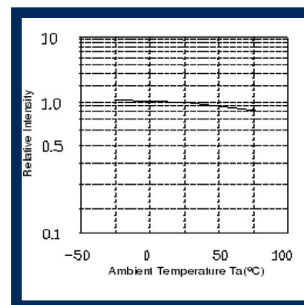
RELATIVE INTENSITY VS FORWARD CURRENT (Ta=25°C)



DERATING

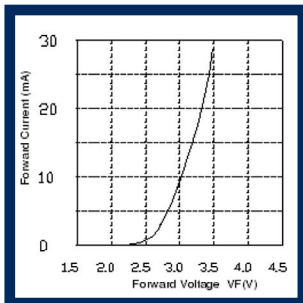


RELATIVE INTENSITY VS AMBIENT TEMPERATURE

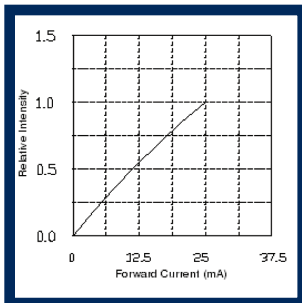


GREEN 520-525NM, BLUE 470-475NM

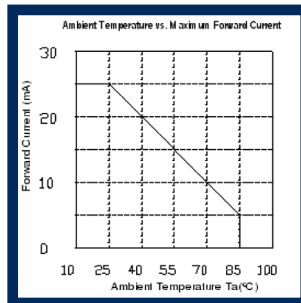
FORWARD VOLTAGE VS FORWARD CURRENT (Ta=25°C)



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



DERATING



RELATIVE INTENSITY VS AMBIENT TEMPERATURE

