

## Optic Sensor Emitter

### DDL2009M

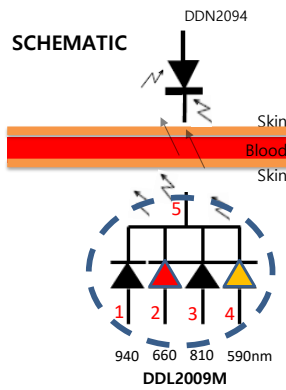
Quadruple LED Lighting

#### FEATURES

Quadruple LEDs Lighting  
Chip on Board Mold Package

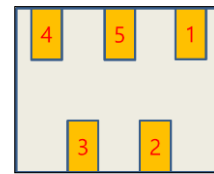
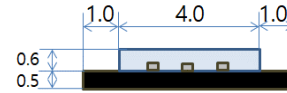
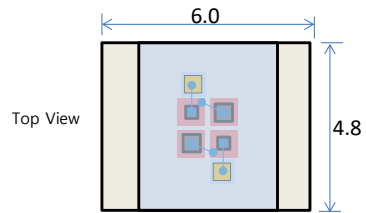
#### APPLICATIONS

**Transmissive** (Refractive) Emitting  
Blood Flow Analysis  
Medical Device  
Pulse Oximeter



#### PACKAGE DIMENSION (mm)

w x h x t = 6.0(±0.1)x4.8(±0.1)x1.2(±0.2)



#### ABSOLUTE MAX. RATINGS (Ta=25°C unless otherwise noted)

| SYMBOL | PARAMETER                  | MAX. RATED VALUE | UNITS |
|--------|----------------------------|------------------|-------|
| PD     | Power Dissipation          | 120              | mW    |
| IF     | Continuous Forward Current | 50               | mA    |
| IFP    | Peak Forward Current       | 200              | mA    |
| VR     | Reverse Voltage            | 5                | V     |
| T stg  | Storage Temp               | -20 ~ +85        | °C    |
| T opr  | Operating Temp             | -20 ~ +80        | °C    |
| T sd   | Soldering Temperature*1    | 240              | °C    |

\*Soldering time : t < 3s

\*\*Moisture Sensitivity Level 3

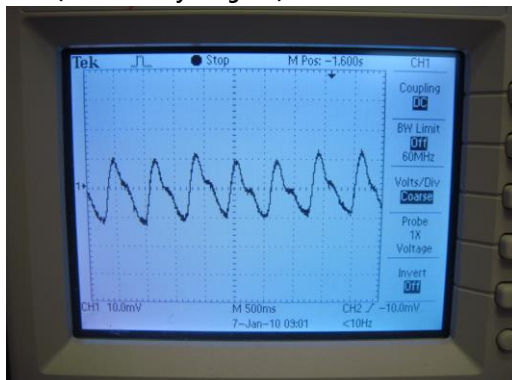
\*\*\*Do prebake 150°C 1HRs if reflow SMT

#### CHARACTERISTICS (Ta=25°C unless otherwise noted)

| SYMBOL | CHARACTERISTIC            | COMPONENTS     | TEST CONDITION | MIN | TYP | MAX | UNITS |
|--------|---------------------------|----------------|----------------|-----|-----|-----|-------|
| VF     | Forward Voltage           | LED1           | IF=20mA        |     | 1.2 | 1.5 | V     |
|        |                           | LED2           |                |     | 1.8 | 2.1 |       |
|        |                           | LED3           |                |     | 1.4 | 1.7 |       |
|        |                           | LED4           |                |     | 2.1 | 2.4 |       |
| IR     | Reverse Breakdown Current | LED 1, 2, 3, 4 | VR=5V          |     |     | 10  | uA    |
| PO     | Output Power              | LED1           | IF=20mA        |     | 4.6 |     | mW    |
|        |                           | LED2           |                |     | 2.9 |     |       |
|        |                           | LED3           |                |     | 6.6 |     |       |
|        |                           | LED4           |                |     | 1.8 |     |       |
| λ PEAK | Peak Wavelength           | LED1           | IF=20mA        | 935 | 940 |     | nm    |
|        |                           | LED2           |                | 655 | 660 |     |       |
|        |                           | LED3           |                | 800 | 810 |     |       |
|        |                           | LED4           |                |     | 590 | 600 |       |
| Δλ     | Half Wave Width           | 1, 2, 3, 4     | IF=20mA        |     | 50  |     | nm    |

#### PPG(Photo Plethysmogram) Characteristic

DDL2008M with DDN2094



#### Packing Information



Anti Static vinyl bag  
Bulk packing with a silicagel

#### Footprint Top View (mm)

