

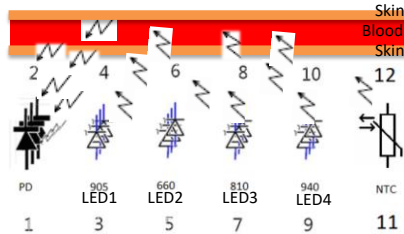
### FEATURES

Integrated Quaternary Emitters and a Photo Detector  
 Red, IR1, IR2, IR3 LED Lightings  
 Body Temp Checking  
 Chip on Board Package

### APPLICATIONS

Reflective Oximeter  
 Wearable Device  
 Medical Device  
 PPG Authentication Device

### SCHEMATIC



### PACKAGE DIMENSION (mm)

w x h x t = 16.4 x 12.9 x 1.5  
 PAD = 1.0 x 3.0

Top View



Bottom

View

### 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       | 100              | 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    |

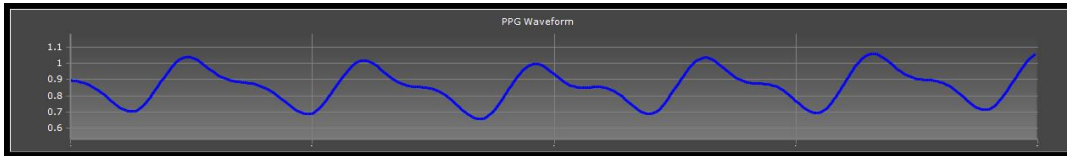
\*Soldering time : t < 3s, \*\*Moisture Sensivity Level 3

\*\*\*Prebake 150°C 2HRs if Reflow Soldering

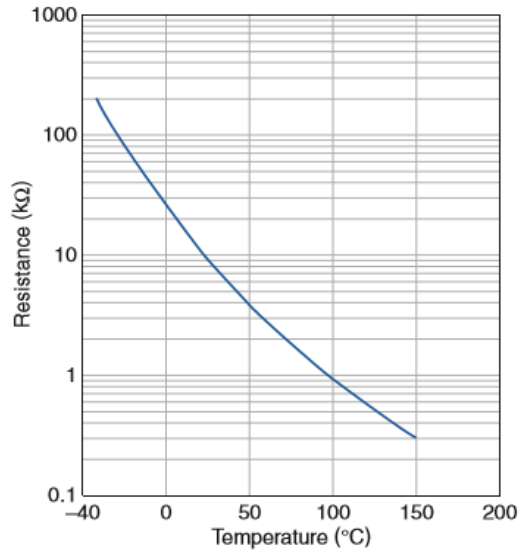
### CHARACTERISTICS (Ta=25°C unless otherwise noted)

| SYMBOL | CHARACTERISCTIC           | COMPONENTS | TEST CONDITION | MIN           | TYP | MAX  | UNITS |
|--------|---------------------------|------------|----------------|---------------|-----|------|-------|
| VF     | Forward Voltage           | LED2       | IF=20mA        |               | 1.9 | 2.2  | V     |
|        |                           | LED4       |                | 0.5           | 2.5 |      |       |
|        |                           | LED3       |                | 1.4           | 1.6 |      |       |
|        |                           | LED1       |                | 1.3           | 1.5 |      |       |
|        |                           | PD         |                | IF=10mA       | 0.5 | 1.3  |       |
| IR     | Reverse Breakdown Current | LED1,2,3,4 | VR=5V          |               |     | 10   | uA    |
| P O    | Output Power              | LED2       | IF=20mA        |               | 2   |      | mW    |
|        |                           | LED4       |                | 3.8           | 2   |      |       |
|        |                           | LED3       |                |               |     |      |       |
|        |                           | LED1       |                |               | 2   |      |       |
|        |                           | NTC        |                |               | 100 |      |       |
| λ PEAK | Peak Wavelength           | LED2       | IF=20mA        |               | 660 |      | nm    |
|        |                           | LED4       |                |               | 940 |      |       |
|        |                           | LED3       |                |               | 810 |      |       |
|        |                           | LED1       |                |               | 905 |      |       |
|        |                           | PD         |                |               | 940 |      |       |
| Δλ     | Half Wave Width           | LED2       | IF=20mA        |               | 30  |      | nm    |
|        |                           | LED4       |                |               | 60  |      |       |
|        |                           | LED3       |                |               | 50  |      |       |
|        |                           | LED1       |                |               | 30  |      |       |
|        |                           | PD         |                |               |     |      |       |
| V BR   | Reverse Breakdown Voltage | PD         | IR=100uA       | 35            |     |      | V     |
| I D    | Reverse Dark Current      |            | V R=5V         |               |     | 10   | nA    |
| I L    | Light Current             |            | 1mW@940nm      |               | 45  |      | uA    |
| S      | Spectral Response Range   |            |                | 400           |     | 1050 | nm    |
| CJ     | Junction Capacitance      |            |                | VR=3V, f=1MHz |     | 44   |       |

### PPG(Photo Plethysmogram) Characteristic



### RT Curve : 10KΩ@25°C



| Temperature(°C ) | Resistance(KΩ) |
|------------------|----------------|
| 20               | 12.09          |
| 25               | 10             |
| 30               | 8.31           |
| 35               | 6.94           |
| 40               | 5.826          |

### Footprint Top View

