

## ■特徴

1. 単色発光タイプです。
2. 外形寸法は1.6(L)×0.8(W)×0.8(H)mmで世界最小の超小型サイズです。
3. 発光色は標準輝度タイプが赤・橙・黄・黄緑・緑・新緑・純緑の7色。高輝度タイプが赤・橙の2色、超高輝度タイプは赤の1色です。

## ■Features

1. Mono-color type
2. Dimensions: 1.6(L)×0.8(W)×0.8(H)mm, being an ultra small and the world smallest size.
3. Standard brightness type has seven colors such as red, orange, yellow, yellow green, green, fresh green and pure green. Super brightness type has two colors of red and orange. Ultra brightness type has one color of red.

## ■絶対最大定格/Absolute Maximum Ratings

(Ta 25°C)

| シリーズ<br>Series | Pd<br>(mW) | If<br>(mA) | Ir<br>(mA)        | Vr<br>(V) | Top<br>(°C) | Tst<br>(°C) |
|----------------|------------|------------|-------------------|-----------|-------------|-------------|
| CL-190         | 50         | 20         | 100 <sup>※1</sup> | 5         | -25~+80     | -30~+85     |

※1 Ifの条件はduty 1/10、パルス幅0.1msecです。

※1 Condition for Ir is pulse of 1/10 duty and 0.1msec width.

## ■電気的・光学的特性/Electro-optical Characteristics

(Ta 25°C)

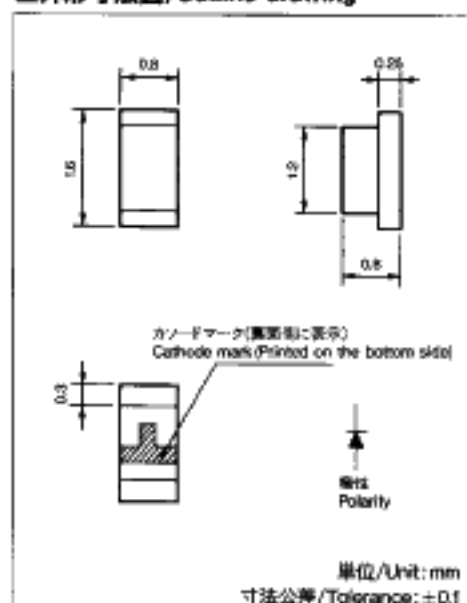
| 部品コード<br>Code for parts | 発光色<br>Lighting color   | Vr         |            |            | $\lambda_p$<br>typ. (nm) | $\Delta\lambda$<br>typ. (nm) | Iv         |              |              |
|-------------------------|-------------------------|------------|------------|------------|--------------------------|------------------------------|------------|--------------|--------------|
|                         |                         | Ir<br>(mA) | typ<br>(V) | max<br>(V) |                          |                              | If<br>(mA) | min<br>(mcd) | typ<br>(mcd) |
| CL-190R                 | Red                     | 20         | 2.2        | 2.6        | 700                      | 100                          | 20         | 1.0          | 2.4          |
| CL-190D                 | Orange                  | 20         | 2.2        | 2.6        | 605                      | 40                           | 20         | 4.5          | 13.0         |
| CL-190Y                 | Yellow                  | 20         | 2.1        | 2.6        | 589                      | 40                           | 20         | 5.0          | 12.0         |
| CL-190YG                | Yellow green            | 20         | 2.2        | 2.6        | 570                      | 30                           | 20         | 10.0         | 35.0         |
| CL-190G                 | Green                   | 20         | 2.2        | 2.6        | 567                      | 28                           | 20         | 5.0          | 20.0         |
| CL-190FG                | Fresh green             | 20         | 2.2        | 2.6        | 560                      | 26                           | 20         | 4.5          | 13.0         |
| CL-190PG                | Pure green              | 20         | 2.2        | 2.6        | 557                      | 24                           | 20         | 2.0          | 6.0          |
| CL-190SR                | Super brightness red    | 20         | 2.0        | 2.6        | 650                      | 40                           | 20         | 3.2          | 9.0          |
| CL-190SD                | Super brightness orange | 20         | 2.0        | 2.6        | 630                      | 40                           | 20         | 4.5          | 13.0         |
| CL-190UR                | Ultra brightness red    | 20         | 1.8        | 2.6        | 660                      | 20                           | 20         | 7.0          | 25.0         |

## CHIP LEDs

**CITILED**®

## CL-190シリーズ CL-190 Series

### ■外形寸法図/Outline drawing



推奨はんだ付けパターン  
The following soldering patterns are recommended for reflow and dip-soldering:



## ■特性/Characteristics

