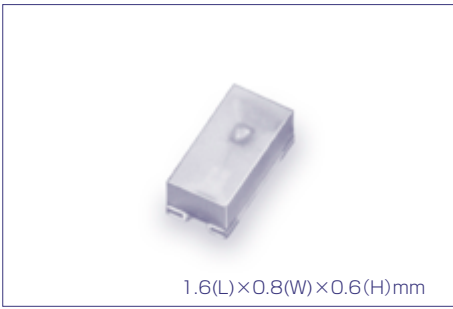


# CL-196 シリーズ

Miniature Chip LED CL-196 ■ Ultra Thin and Small Size



● 超小型チップLED CL-190の厚み(0.8mm)を更に薄くした1.6(L)×0.8(W)×0.6(H)mmの超小型チップLEDです。

● Ultra-small-sized chip LED even thinner than CL-190(0.8mm thick,dimensions:1.6 (L)×0.8(W)×0.6(H)mm

## ●絶対最大定格/Absolute Maximum Rating

(Ta 25°C)

| Series                                | Pd (mW) | I <sub>F</sub> (mA) | I <sub>FP</sub> (mA) | V <sub>R</sub> (V) | Top (°C) | Tst (°C) |
|---------------------------------------|---------|---------------------|----------------------|--------------------|----------|----------|
| CL-196 (UR,HRを除く<br>Except UR and HR) | 50      | 20                  | 100*1                | 5                  | -25~+80  | -30~+85  |
| CL-196UR/HR                           | 78      | 30                  |                      |                    |          |          |

※1 I<sub>FP</sub>の条件はduty 1/10、パルス巾0.1msecです。

※1 Condition for I<sub>FP</sub> is pulse of 1/10 duty and 0.1msec width.

## ●電気的光学的特性/Electro-optical Characteristics

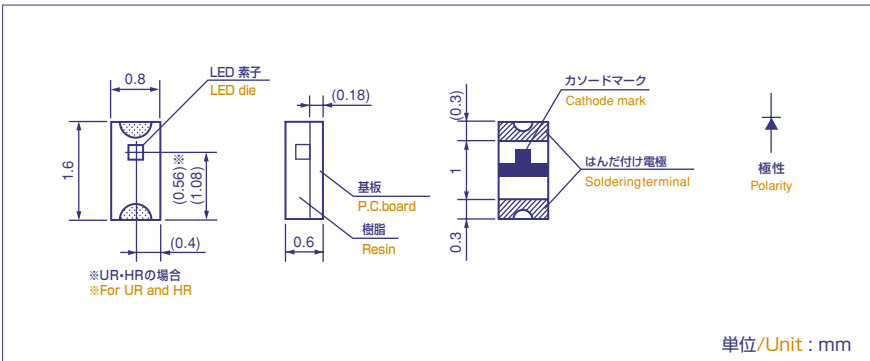
(Ta 25°C)

| Code for parts | Lighting color          | V <sub>F</sub>      |         |         | λ <sub>p</sub> typ (nm) | Δλ typ (nm) | I <sub>v</sub> * (mcd) |           |           |
|----------------|-------------------------|---------------------|---------|---------|-------------------------|-------------|------------------------|-----------|-----------|
|                |                         | I <sub>F</sub> (mA) | typ (V) | max (V) |                         |             | I <sub>F</sub> (mA)    | min (mcd) | typ (mcd) |
| CL-196R        | Red                     | 20                  | 2.2     | 2.6     | 700                     | 100         | 20                     | 0.5       | 1.3       |
| CL-196D        | Orange                  | 20                  | 2.2     | 2.6     | 605                     | 40          | 20                     | 2.4       | 7.1       |
| CL-196Y        | Yellow                  | 20                  | 2.1     | 2.6     | 589                     | 40          | 20                     | 2.6       | 6.4       |
| CL-196YG       | Yellow green            | 20                  | 2.2     | 2.6     | 570                     | 30          | 20                     | 5         | 18        |
| CL-196G        | Green                   | 20                  | 2.2     | 2.6     | 567                     | 26          | 20                     | 2.5       | 10        |
| CL-196FG       | Fresh green             | 20                  | 2.2     | 2.6     | 560                     | 26          | 20                     | 2.2       | 6.5       |
| CL-196PG       | Pure green              | 20                  | 2.2     | 2.6     | 557                     | 24          | 20                     | 1         | 3         |
| CL-196SR       | Super brightness red    | 20                  | 2       | 2.6     | 650                     | 40          | 20                     | 1.5       | 4.3       |
| CL-196SD       | Super brightness orange | 20                  | 2       | 2.6     | 630                     | 40          | 20                     | 2         | 6.2       |
| CL-196UR       | Ultra brightness red    | 20                  | 1.8     | 2.6     | 660                     | 20          | 20                     | 3.5       | 13        |
| CL-196HR       | High brightness red     | 20                  | 1.8     | 2.6     | 660                     | 20          | 20                     | 5         | 23        |

※NIST規格に準拠

※Per NIST standards

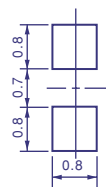
## ●外形寸法図/Outline drawing



### 推奨はんだ付けパターン

The following soldering patterns are recommended for reflow soldering:

リフローはんだ用  
For reflow soldering



## ■ 諸特性 / Characteristics

