

CL-190シリーズ  
CL-190 Series

## ■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 Series	Pd (mW)	I <sub>f</sub> (mA)	I <sub>fp</sub> (mA)	V <sub>r</sub> (V)	Top (°C)	Tst (°C)
CL-190	50	20	100 <sup>※1</sup>	5	-25~+80	-30~+85

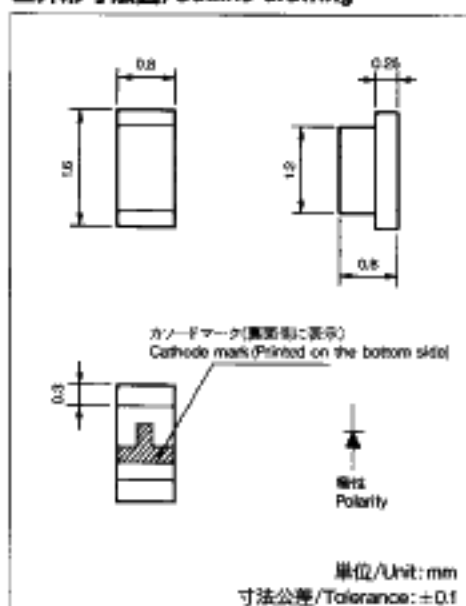
※1 I<sub>fp</sub>の条件はduty 1/4、パルス幅0.1msecです。※1 Condition for I<sub>fp</sub> is pulse of 1/4 duty and 0.1msec width.

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

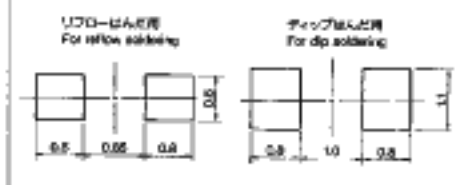
(Ta 25°C)

部品コード Code for parts	発光色 Lighting color	V <sub>r</sub>			λ <sub>p</sub> typ. (nm)	Δλ typ. (nm)	I <sub>v</sub>		
		I <sub>r</sub> (mA)	typ. (V)	max. (V)			I <sub>v</sub> (mA)	min. (mod)	typ. (mod)
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	8.0
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

## ■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

