

Photo diodes

KODENSHI

SP - 1CL3 · SP - 1CL3R2

The SP - 1CL3 is a high - sensitivity photodiode mounted in a 3ø low - cost ceramic package. The SP - 1CL3R2 photodiode, with daylight filter, is available in the same package.

FEATURES

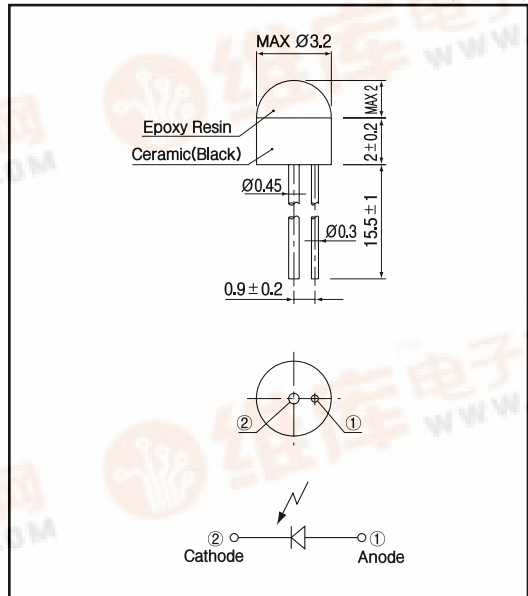
- Compact (ø3mm)
- Wide angular response
- Low - cost

APPLICATIONS

- Optical counters
- Floppy disc drives
- Encoders

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta=25)

| Item | Symbol | Rating | Unit |
|--------------------|-------------------|-------------|------|
| Reverse voltage | V _r | 20 | V |
| Operating temp. | T _{opr.} | - 25 ~ +90 | |
| Storage temp. | T _{stg.} | - 30 ~ +100 | |
| Soldering temp. *1 | T _{sol.} | 260 | |

*1. For MAX.5 seconds at the position of 2 mm from the package

ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25)

| Item | Symbol | Conditions | SP - 1CL3 | | | SP - 1CL3R2 | | | Unit. |
|--|-----------------|---|-------------|-------|------|-------------|-------|------|-------|
| | | | Min. | Typ. | Max. | Min. | Typ. | Max. | |
| Open circuit voltage | V _{oc} | E _v = 1,000lx *2 | | 0.4 | | | 0.4 | | V |
| Short circuit current | I _{sc} | | 8 | 15 | | 5 | 15 | | µA |
| Dark current | I _d | SP - 1CL3 SP - CL3R2 V _r = 5V V _e = 1V | | | 0.5 | | | 1 | µA |
| Curve factor | C.F. | | 0.55 | | | 0.55 | | | - |
| Capacitance | C _t | V = 0V, f = 1MHz | | 50 | | | 50 | | pF |
| Temperature coefficient of V _{oc} | t | | | - 2.2 | | | - 2.2 | | mV/ |
| Temperature coefficient of I _{sc} | t | | | 0.18 | | | 0.18 | | %/ |
| Spectral sensitivity | | | 450 ~ 1,050 | | | 700 ~ 1,050 | | | nm |
| Peak wavelength | p | | 900 | | | 920 | | | nm |
| Half angle | | | ± 50 | | | ± 50 | | | deg. |

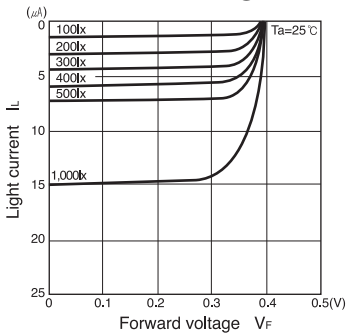
*2. Color temp. = 2856K standard Tungsten lamp



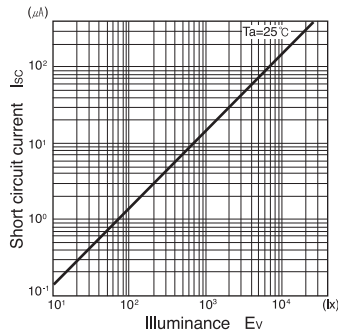
Photo diodes

SP - 1CL3 · SP - 1CL3R2

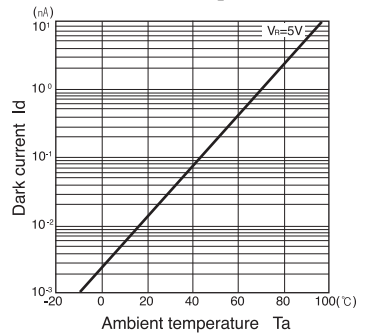
Light current Vs. Forward voltage



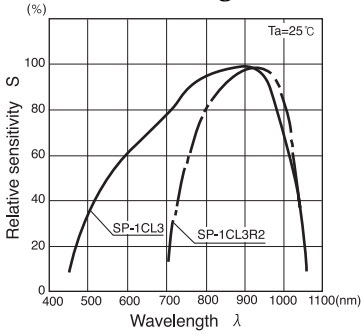
Short circuit current I_sc Vs. Illuminance E_v



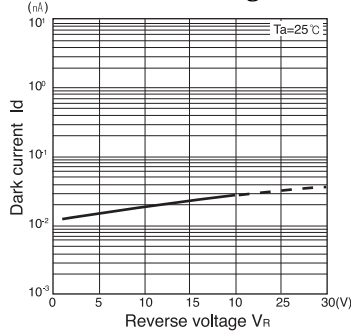
Dark current I_d Vs. Ambient temperature T_a



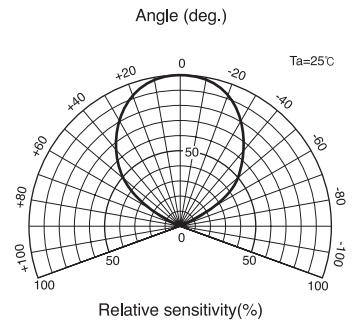
Relative sensitivity Vs. Wavelength



Dark current I_d Vs. Reverse voltage V_R



Radiant Pattern



Capacitance between terminals C_t Vs. Reverse voltage V_R

