

SP - 1CL3 · SP - 1CL3R2

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

FEATURES

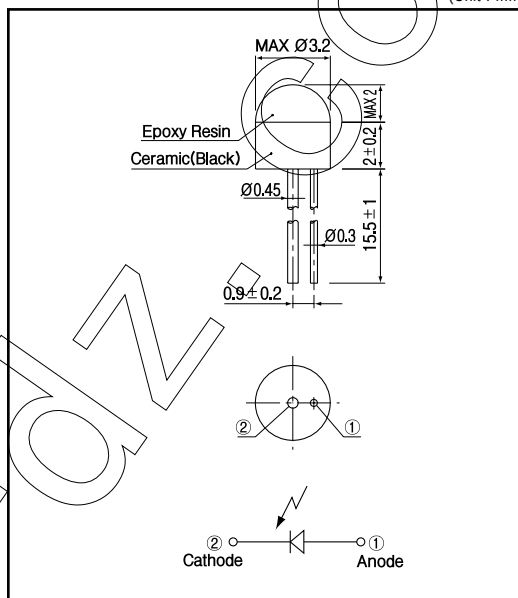
- Compact ($\varnothing 3$ mm)
- Wide angular response
- Low - cost

APPLICATIONS

- Optical counters
- Floppy disc drives
- Encoders

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta = 25 °C)

Item	Symbol	Rating	Unit
Reverse voltage	V_R	20	V
Operating temp.	Topr.	-25 ~ +90	
Storage temp.	Tstg.	-30 ~ +100	
Soldering temp. ^{*1}	Tsol.	260	

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

ELECTRO-OPTICAL CHARACTERISTICS

(Ta = 25 °C)

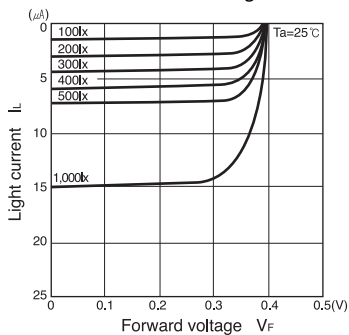
Item	Symbol	Conditions	SP - 1CL3			SP - 1CL3R2			Unit.
			Min.	Typ.	Max.	Min.	Typ.	Max.	
Open circuit voltage	V_{oc}	$E_v = 1,000 \text{ lx}^{*2}$		0.4			0.4		V
Short circuit current	I_{sc}		8	15		5	15		μA
Dark current	I_d	SP - 1CL3 SP - 1CL3R2 $V_R = 5V, V_d = 1V$			0.5			1	μA
Curve factor	C.F.		0.55			0.55			-
Capacitance	C_t	$V = 0V, f = 1\text{MHz}$		50			50		pF
Temperature coefficient of V_{oc}	α_t			-2.2			-2.2		mV/
Temperature coefficient of I_{sc}	β_t			0.18			0.18		%/
Spectral sensitivity	λ		450 ~ 1,050			700 ~ 1,050			nm
Peak wavelength	λ_p			900			920		nm
Half angle	$\Delta \theta$			± 50			± 50		deg.

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

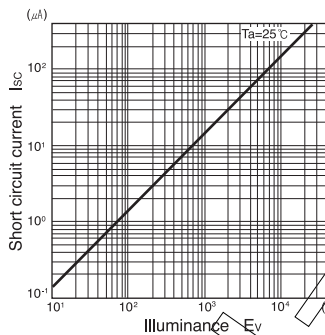
Photo diodes

SP - 1CL3 · SP - 1CL3R2

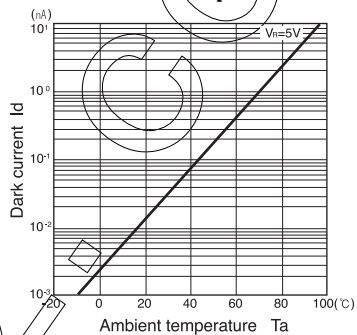
**Light current Vs.
Forward voltage**



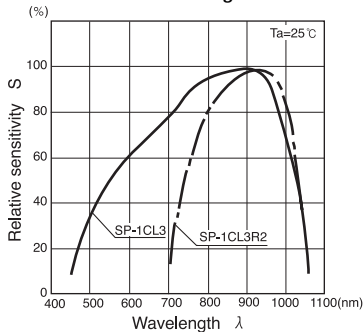
**Short circuit current Vs.
Illuminance**



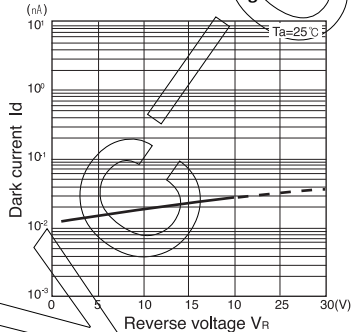
**Dark current Vs.
Ambient temperature**



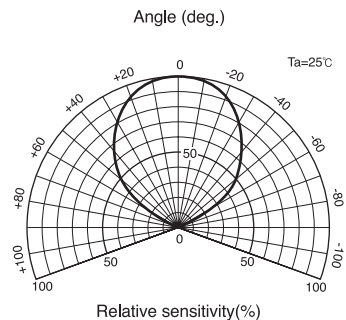
**Relative sensitivity Vs.
Wavelength**



**Dark current Vs.
Reverse voltage**



Radiant Pattern



**Capacitance between terminals Vs.
Reverse voltage**

