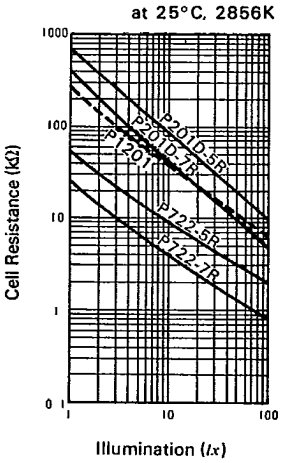
T-41-41

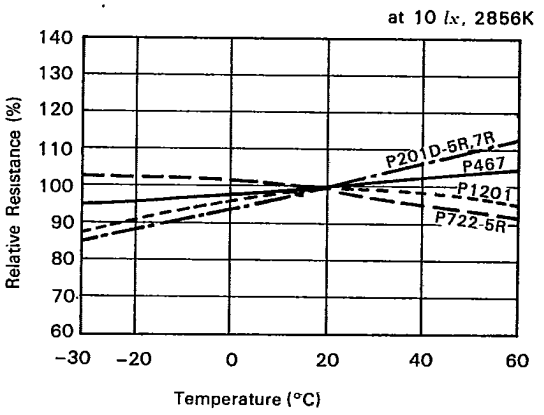
For Exposure Meters and Auto-Dimmers

Type No.	Outline	Material of Enclosure	Maximum Ratings (Absolute Values)			Characteristics (@ 25°C)								
			Voltage Between Terminals @ 25°C (Vdc)	Power Dissipation @ 25°C (mW)	Ambient Temperature Range (°C)	Spectral Peak typ. (nm)	Cell Resistance 0 lx A min. (MΩ)	Cell Resistance 10 lx B min. (kΩ)	Cell Resistance 10 lx B max. (kΩ)	C γ^{100}_{10} typ.	Pre-historic D Error (ΔPE) @ 1 lx 30 sec typ. (Ev)	Pre-historic D Error (ΔPE) @ 1 lx 120 sec typ. (Ev)	Color E Temperature Error ΔCE @ 10 lx typ. (Ev)	Response Time (@ 10 lx) F Rise typ. (ms)	Response Time (@ 10 lx) F Decay typ. (ms)
P201D-5R	❶	Resin Coating	100	50	−30~+60	520	20	48 ~ 140		0.90	+0.05	+0.20	−0.10	50	20
P722-5R	❶	Resin Coating	100	70	−30~+60	560	0.5	5.3 ~ 15		0.70	+0.10	+0.15	−0.20	50	40
P1201	❶	Resin Coating	100	70	−30~+80	540	5	20 ~ 60		0.75	+0.10	+0.15	−0.15	40	30
P1445	❶	Resin Coating	100	50	−30~+50	620	20	48 ~ 140		0.85	+0.10	+0.15	−0.10	40	10
P201D-7R	❷	Resin Coating	200	100	−30~+60	520	20	23 ~ 67		0.90	+0.05	+0.20	−0.10	50	20
P722-7R	❷	Resin Coating	200	150	−30~+60	560	0.5	2.5 ~ 7.5		0.70	+0.10	+0.15	−0.20	50	40
P1202-12	❷	Resin Coating	200	150	−30~+60	560	0.5	3.5 ~ 14		0.70	+0.10	+0.15	−0.20	50	40
P559	❸	Metal Case	200	50	−30~+60	540	0.1	2.9 ~ 8.5		0.60	+0.15	+0.20	−0.25	100	140
P201D	❹	Metal Case	200	100	−30~+60	520	10	20 ~ 60		0.90	+0.05	+0.20	−0.10	50	20
P201E	❹	Metal Case	200	100	−30~+55	560	10	4.5 ~ 13		0.85	+0.15	+0.20	−0.20	30	10
P534	❹	Metal Case	200	100	−30~+80	560	0.05	1.3 ~ 3.7		0.55	+0.15	+0.20	−0.25	70	100
P467	❹	Metal Case	100	100	−30~+60	520	5	8 ~ 24		0.90	+0.10	+0.15	−0.10	50	20

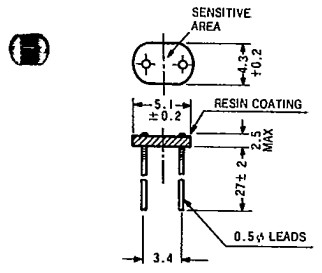
● **Typical Cell Resistance vs. Illumination Characteristics**



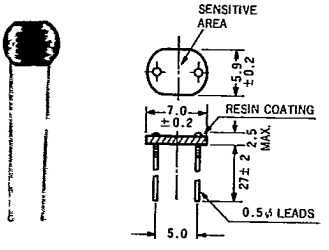
● **Typical Temperature Characteristics**



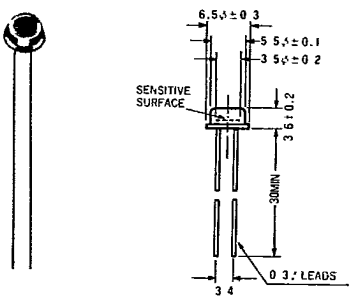
❶ P201D-5R, P722-5R etc.



❷ P201D-7R, P722-7R



❸ P559



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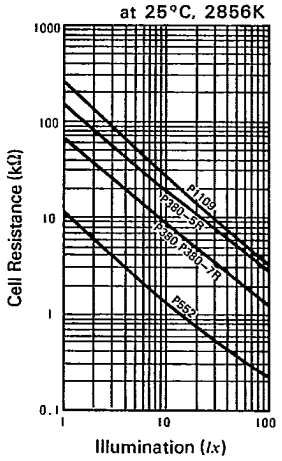
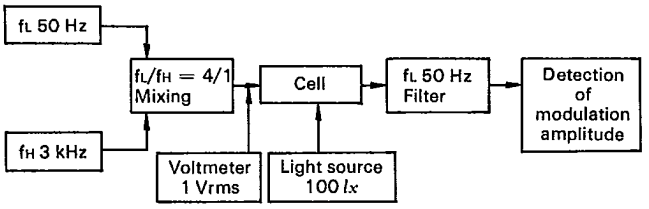
For Musical Equipments

Type No.	Outline	Material of Enclosure	Maximum Ratings (Absolute Values)			Characteristics (@ 25°C)						
			Voltage Between Terminals @25°C (Vdc)	Power Dissipation @25°C (mW)	Ambient Temperature Range (°C)	Spectral Peak typ. (nm)	Cell Resistance 0 lx Ⓐ min. (MΩ)	Cell Resistance 10 lx Ⓑ min. (kΩ)	Cell Resistance 10 lx Ⓑ max. (kΩ)	IM Ⓒ Distortion max. (%)	γ_{10}^{100} Ⓒ typ.	Response Time Ⓕ (@ 10 lx) Rise typ. (ms)	Response Time Ⓕ (@ 10 lx) Decay typ. (ms)
P380-5R	❶	Plastic Coating	100	30	−30 ~ +50	620	20	12 ~ 36		0.1	0.85	40	10
P380-7R	❷	Plastic Coating	200	50	−30 ~ +50	620	20	4.4 ~ 13		0.1	0.85	40	10
P380	❹	Metal Case	200	50	−30 ~ +50	620	20	4.4 ~ 13		0.1	0.85	40	10
P552	❹	Metal Case	100	100	−30 ~ +50	660	10	0.75 ~ 2.2		0.1	0.60	30	20
P1109 Ⓗ	❺	Plastic Coating	100	30	−30 ~ +50	620	10	15 ~ 45		0.1	0.85	40	10

● Typical Cell Resistance vs. Illumination Characteristics



Ⓖ IM (Inter Modulation) distortion ratio is measured with the following block diagram (SMPTE Method).



Ⓗ Dual element type. Data listed are for one element.

Ⓐ Measured 10 seconds after removal of incident illumination of 10 lx.

Ⓑ For conditions where the light source is a tungsten filament lamp operated at a distribution temperature of 2856K.

Ⓒ γ Characteristics (between 10 lx and 100 lx).

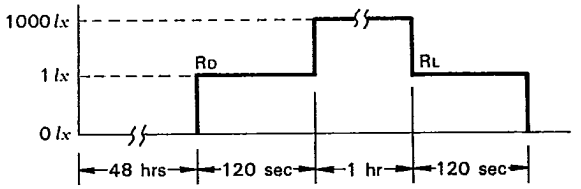
$$\gamma_{10}^{100} = \frac{\log (R_{10}/R_{100})}{\log (100/10)}$$

R_{10}, R_{100} : Cell resistance at 10 lx and 100 lx
Typical γ tolerance is ±0.1

Ⓓ Pre-historic error (ΔPE) is calculated by the following equation.

$$\Delta P_{En} = \frac{1}{\gamma} \log 2 \frac{R_L}{R_D}$$

R_D : Cell resistance at 1 lx after stored in darkness for 48 hours.
R_L : Cell resistance at 1 lx after illuminated at 1000 lx for 1 hour.
γ : γ characteristic between 1 lx and 10 lx (γ_{10}^{10})



In this catalog, ΔPE is calculated with R_L and R_D at 30 sec and 120 sec after adjusted to 1 lx, as follows.

$$\Delta P_{E30} = \frac{1}{\gamma} \log 2 \frac{R_{L30}}{R_{D30}}. \qquad \Delta P_{E120} = \frac{1}{\gamma} \log 2 \frac{R_{L120}}{R_{D120}}$$

Ⓔ Color temperature error (ΔCE) is calculated by the following equation.

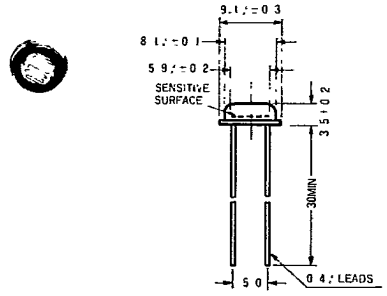
$$\Delta C_E = \frac{1}{\gamma} \log 2 \frac{R_{2856K}}{R_{4873K}}$$

R_{2856K}: Cell resistance at 10 lx with a light source operated at a distribution temperature of 2856K.
R_{4873K}: Cell resistance at 10 lx with a light source operated at a distribution temperature of 4873K.
γ : γ characteristic between 10 lx and 100 lx (γ_{10}^{100}).

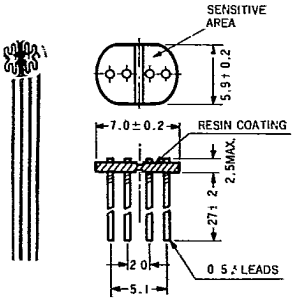
Ⓕ The time required for conductance to rise to 63% of the peak value (rise time), or fall from the peak to 37% of the peak value (decay time).

Unit: mm

❹ P201D, P201E, P534 etc.



❺ P1109



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