

KVS-2023

The KVS-2023 is the optical sensor with high sensitivity of the visible light. It is a photo transistor with IR filter inside.

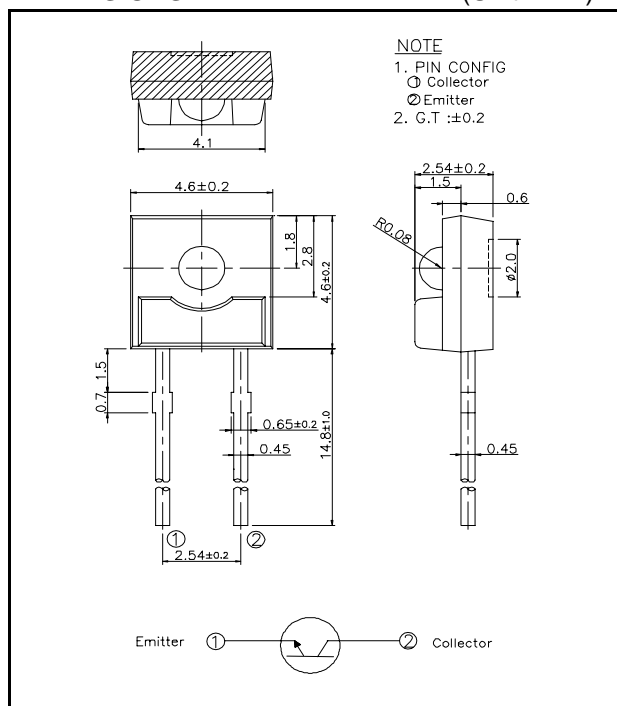
FEATURES

- High sensitivity in a visible area, but little sensitivity in others (UV and IR)
- Environment friendly product (not contain Cadmium)
- Side view package, easy to use.

APPLICATIONS

- Brightness detection of CRT, LCD
- Replace for CdS cell.
- Control of the lighting in a Car, Room, etc

DIMENSIONS (Unit : mm)



ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

Item	Symbol	Ratings	Unit
Collector-Emitter Voltage	V_{CEO}	10	V
Emitter-Collector Voltage	V_{ECO}	5	V
Collector Current	I_C	20	mA
Collector Power Dissipation	P_C	100	mW
Operating Temperature	$T_{opr.}$	-20 ~ +100	°C
Storage Temperature	$T_{stg.}$	-30 ~ +100	°C
Soldering Temperature (see Note 1)	$T_{sol.}$	260 *1	°C

Notes *1 : For max. 5 seconds at the position of 2 mm from the package.

ELECTRO-OPTICAL CHARACTERISTICS

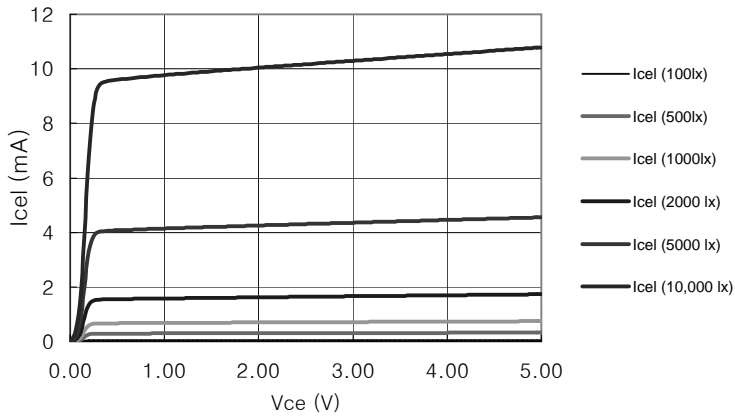
(Ta=25°C)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Collector dark current	I_{CEO}	$V_{CE} = 10 V$	-	-	100	nA
Light current	I_{CEL}	$V_{CE}=5V, 1000 \text{ lx} *2$	-	0.8	-	mA
Switching speeds	Rise time	$V_{CC}=5V, I_C=0.5mA$ $R_L=1k\Omega$	-	50	-	usec
	Fall time		-	60	-	usec
Spectral sensitivity	λ	10%	450 ~ 700			nm
Peak wavelength	λ_D			600		nm
Half angle	$\Delta\theta$		-	± 30	-	deg.

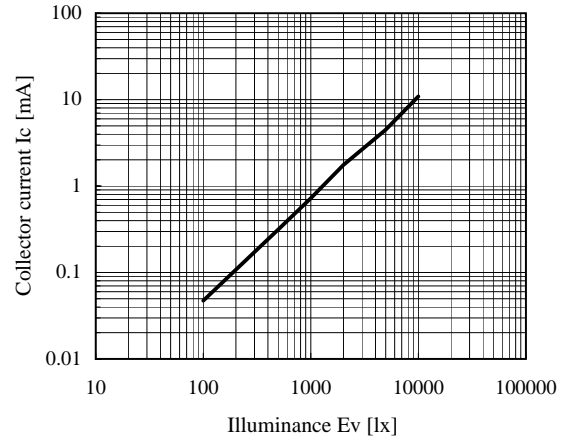
Notes *2.: Color temp=2856K standard Tungsten Lamp.

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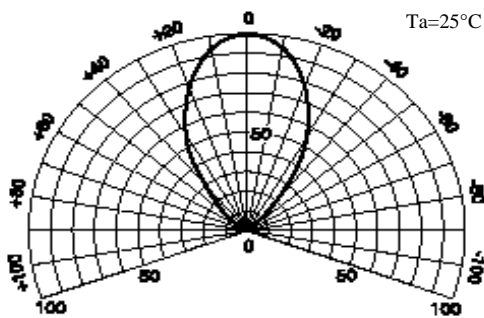
Collector current Vs. Collector - Emitter voltage $T_a=25^\circ$



Collector current Vs. Illuminance $V_{ce}=5V$

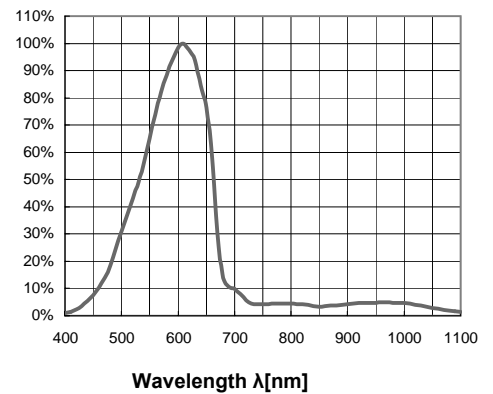


Radiant Pattern
Angle (deg.) $T_a=25^\circ C$

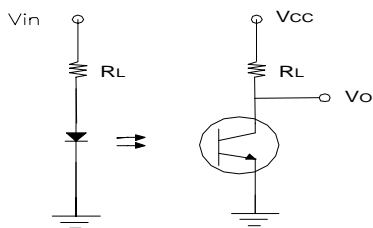


Relative intensity (%)

Relative intensity vs. Wavelength



Switching time measurement circuit



Test Circuit

