

KR1227

Point Spot • Infra Red LED Type

Description

Model **KR1227** has an Infra Red LED and a Photo transistor with non-sphere lens on emitter and detector. This model can be installed on P.C.B.

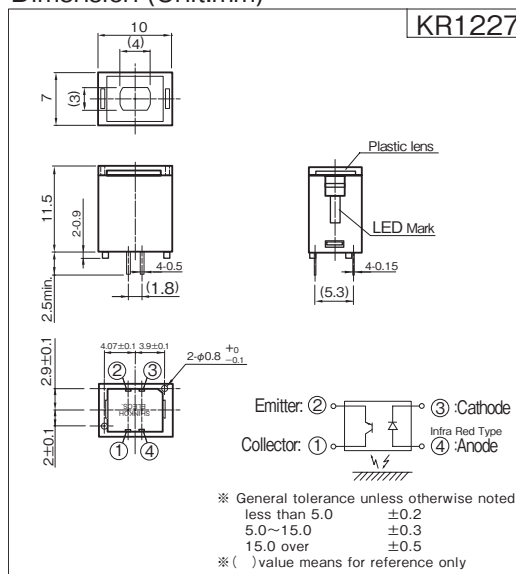
Feature

- High resolution-0.2mm(STD.) at d=2.7mm.
- Low Cost.
- Compact Package.
- Installed on PC board.
- Other beam type; Point Spot type ... **KR1226**
Bar-line Spot type ... **KR1228, KR1229**

Application

- Bar-code Reader.
- Paper edge detection.
- Mark sensor of OMR and OCR.

Dimension (Unit:mm)



Absolute Maximum Ratings

[Ta=25°C Unless otherwise noted]

Item		Symbol	Rating	Units
Emitter	Forward Current	I_F	40	mA
	Reverse Voltage	V_R	5	V
	Power Dissipation	P	75	mW
Detector	Collector-Emitter Voltage	V_{CE0}	20	V
	Emitter-Collector Voltage	V_{EC0}	5	V
	Collector Current	I_C	20	mA
	Power Dissipation	P_C	75	mW
Operating Temperature		T_{opr}	-10 ~ +65	°C
Storage Temperature		T_{stg}	-20 ~ +75	°C
Soldering Temperature ^{※1}		T_{sol}	260	°C

- ※ 1. Soldering condition 5sec. At 1mm over from body.
 ※ 2. 90% Reflective paper d=2.7mm
 ※ 3. No Object, in Dark

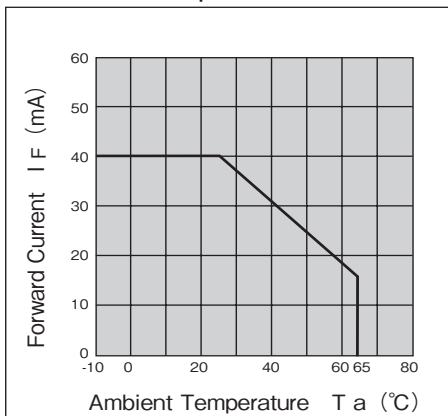
Electro-Optical Characteristics [Ta=25°C Unless otherwise noted]

Item		Symbol	Condition	min.	typ.	max.	Units
Emitter	Forward Voltage	V_F	$I_F=20mA$	—	1.3	1.5	V
	Reverse Current	I_R	$V_R=5V$	—	—	10	μA
	Peak Wavelength	λ_p	$I_F=20mA$	—	890	—	nm
Detector	Dark Current	I_{CE0}	$V_{CE}=20V, 0 \text{ lux}$	—	1	200	n A
Coupled	Light Current ^{※2}	I_C	$V_{CE}=5V, I_F=20mA$	50	100	—	μA
	Leak Current ^{※3}	I_{LEAK}	$V_{CE}=5V, I_F=20mA$	—	—	10	μA
	Response Time	Rise	$V_{CC}=5V, I_C=35 \mu A, R_L=1k \Omega, d=2.7mm$	—	90	—	μsec
		Fall		—	140	—	μsec

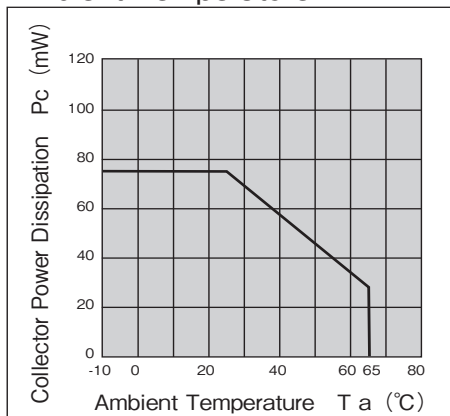
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Note: Operation never exceeds each value of Absolute Maximum Ratings.

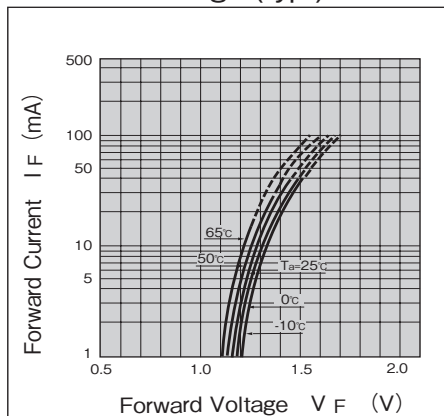
Forward Current vs. Ambient Temperature



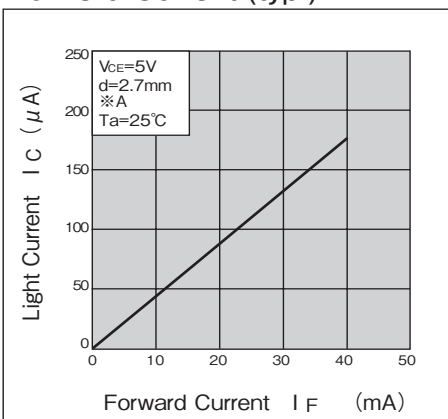
Collector Power Dissipation vs. Ambient Temperature



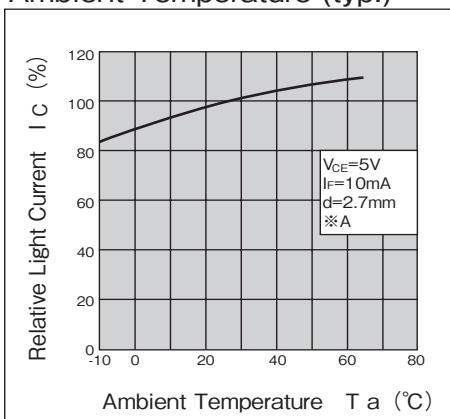
Forward Current vs. Forward Voltage (typ.)



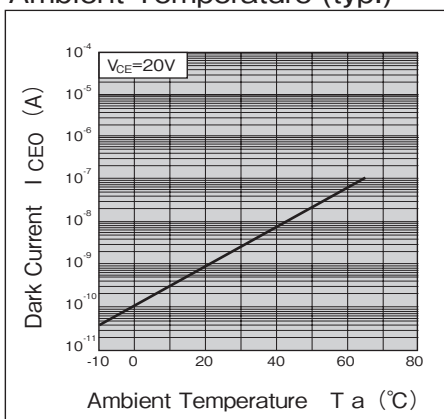
Light Current vs. Forward Current (typ.)



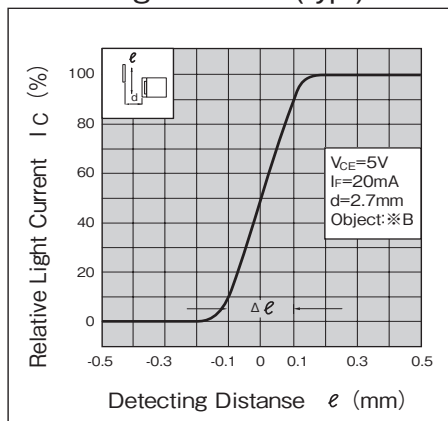
Relative Light Current vs. Ambient Temperature (typ.)



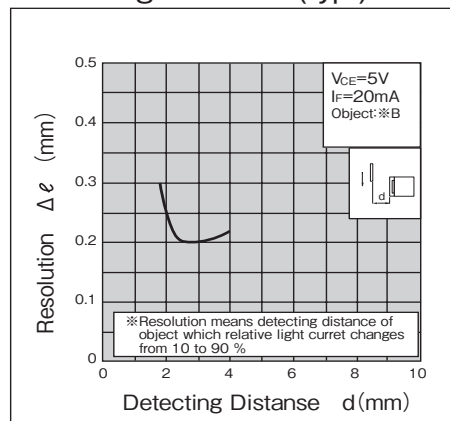
Dark Current vs. Ambient Temperature (typ.)



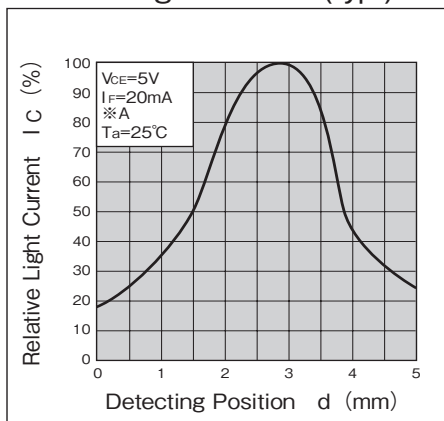
Response At Edge vs. Detecting Distance (typ.)



Resolution vs. Detecting Distance (typ.)



Detecting Position vs. Relative Light Current (typ.)



※A 90% Reflective Paper
※B Al Evaporation Mirror

- A Custom designed package is available on request.
- Specification are subject to change without notice.

04.09-1A

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