

# HP - 5FR2

The HP - 5FR2 is a high - output, high - speed silicon photodiode mounted in a sidelooking plastic package with daylight filter. The HP - 5FR3 and HP - 5FR4 photodiode with a different daylight filter(IR - 88 type), are available in the same package.

### FEATURES

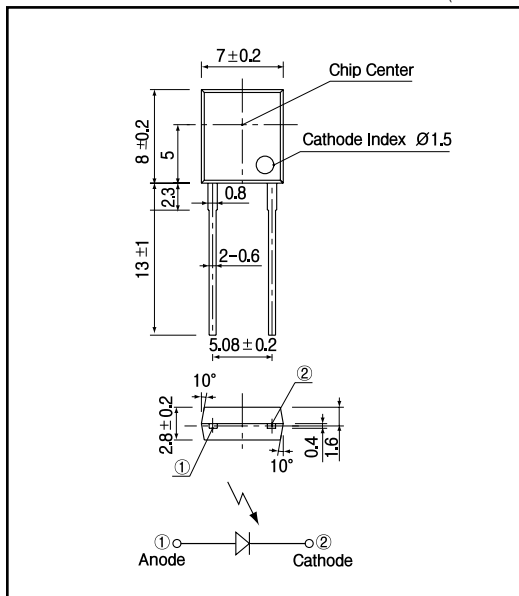
- High - output power for IRED
- High - speed response
- Wide angular response
- Relatively low - cost against metal can package
- Sidelooking plastic package with daylight filter

### APPLICATIONS

- Remote control sensors
- Optical switches
- Photocouplers

### DIMENSIONS

(Unit : mm)



### MAXIMUM RATINGS

( $T_a = 25^\circ\text{C}$ )

Item	Symbol	Rating	Unit
Reverse voltage	$V_R$	35	V
Power dissipation	$P_b$	150	mW
Operating temp.	$T_{opr.}$	- 30 ~ + 70	
Storage temp.	$T_{stg.}$	- 40 ~ + 80	
Soldering temp. *1	$T_{sol.}$	260	

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

### ELECTRO-OPTICAL CHARACTERISTICS

( $T_a = 25^\circ\text{C}$ )

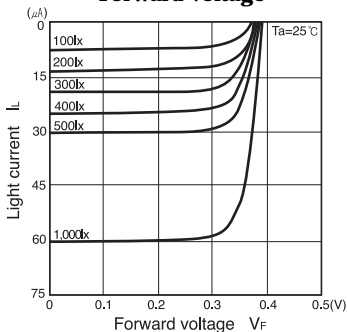
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Open circuit voltage	$V_{oc}$	$E_v = 1,000 \text{lx}^{-2}$		0.38		V
Short circuit current	$I_{sc}$		40	60		$\mu\text{A}$
Dark current	$I_d$	$V_R = 10\text{V}$			30	nA
Curve factor	C.F.		0.55			-
Capacitance	$C_t$	$V = 0\text{V}, f = 1\text{MHz}$		175		pF
Temperature coefficient of $V_{oc}$	t			- 2.2		mV/
Temperature coefficient of $I_{sc}$	t			0.18		%/
Spectral sensitivity				700 ~ 1,050		nm
Peak wavelength	$\lambda_p$			940		nm
Half angle				$\pm 70$		deg.

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

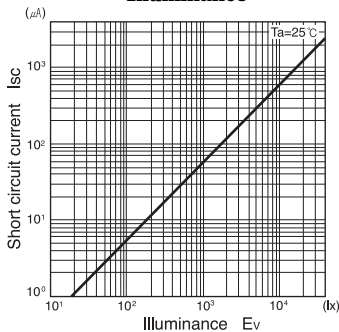
Photo diodes

**HP - 5FR2**

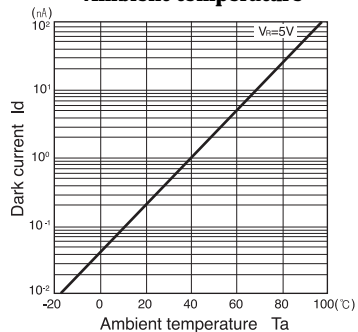
**Light current Vs. Forward voltage**



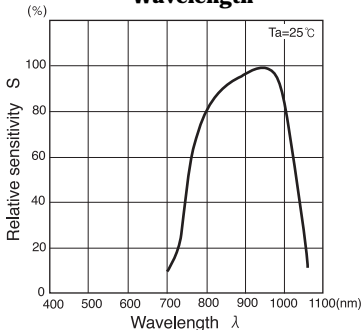
**Short circuit current Vs. Illuminance**



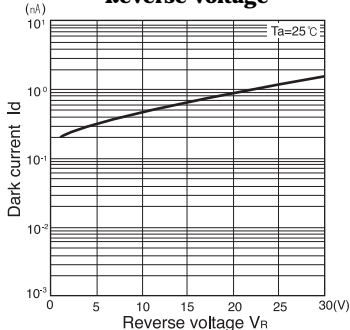
**Dark current Vs. Ambient temperature**



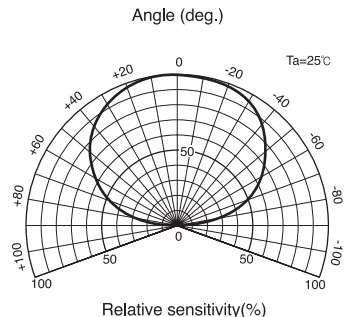
**Relative sensitivity Vs. Wavelength**



**Dark current Vs. Reverse voltage**



**Radiant Pattern**



**Capacitance between terminals Vs. Reverse voltage**

