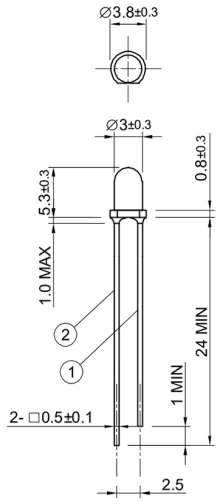
Si Phototransistors

KPT081M31



1. Collector
2. Emitter

Unit: mm

Characteristics

- NPN phototransistor
- Transparent epoxy mold
- Low leak current

Applications

- Optical switches
- Optical encoders
- Photo-isolators
- Camera stroboscopes
- Infrared sensors
- Automatic control apparatus

Package

- MOLD

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Absolute Maximum Ratings

Parameter	Symbol	Value	Unit	Conditions
APD Reverse Collector-emitter voltage	V_{CEO}	20	V	-
APD Reverse Emitter-collector voltage	V_{ECO}	5	V	-
Collector dissipation	P_D	75	mW	-
Operating temperature	T_{opr}	-20 to +85	°C	Avoid dew condensation
Storage temperature	T_{stg}	-30 to +100	°C	Avoid dew condensation

Electrical and Optical characteristics (T_a=25°C V_R=2V unless otherwise noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Sensitive size	S	-	0.64×0.64	-	mm2	-
Sensitive wavelength	λ	400	800(λp)	1000	nm	λp=Peak wavelength
Photocurrent	I_L	-	7	-	mA	V_{CE}=5V 1000lx(@2856K)
Dark current	I_{ceo}	-	5	200	nA	V_{CE}=20V
Half angle	2θ	-	60	-	deg.	-
Current amplification factor	h_{FE}	600	-	-	null	V_{CE}=5V I_C=2mA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	-	-	0.4	V	I_C=1mA 1000lx(@2856K)
Rise/Fall Time	t_r t_f	-	5	-	μS	V_{CE}=5V I_C=2mA R_L=100Ω

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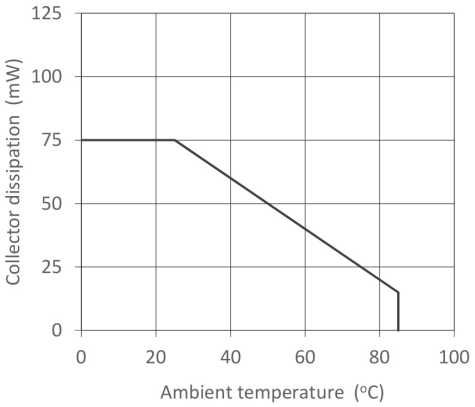
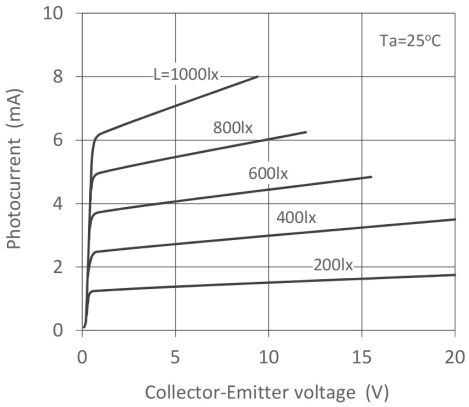
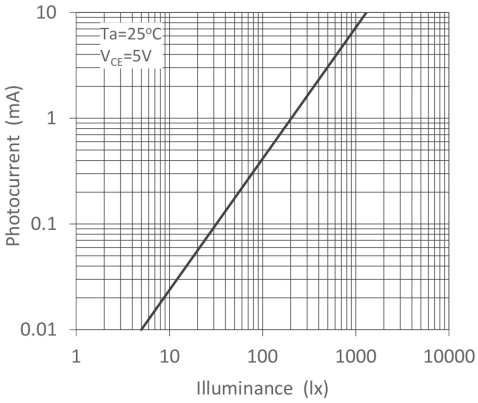
Collector Dissipation - Ambient Temperature



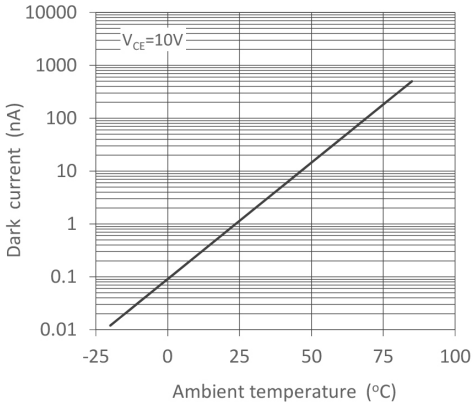
Photocurrent - Coolector-Emitter Voltage



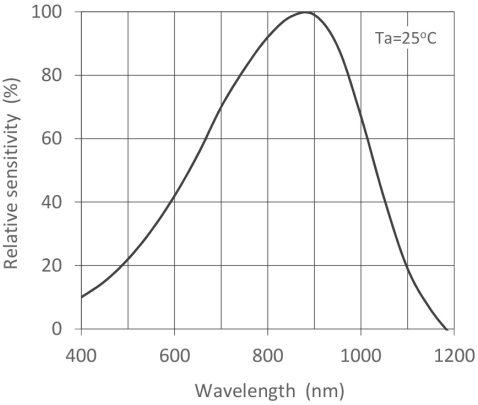
Photocurrent - Illuminance



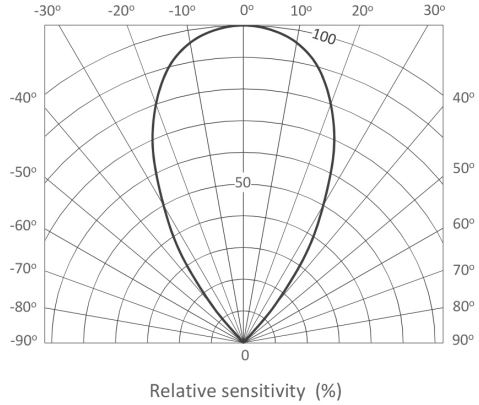
Dark Current - Ambient Temperature



Spectral Responsivity



Directivity



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