

Photomicrosensor (Transmissive)

EE-SX1340

Compact Slot / SMD Type (Slot width: 4 mm)

- Unique 4 mm Slot width.
- PCB surface mounting type.
- High resolution with a 0.5-mm-wide aperture.



Be sure to read *Safety Precautions* on page 3.



Ordering Information

Photomicrosensor

Appearance	Sensing method	Connecting method	Sensing distance	Aperture size (H × W) (mm)	Output type	Model
	Transmissive (slot type)	SMT	4 mm (slot width)	Emitter 1.04 × 1.4 Detector 1.4 × 0.5	Phototransistor	EE-SX1340

Ratings, Characteristics and Exterior Specifications

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rated value	Unit	Remarks
Emitter				
Forward current	I_F	30	mA	--- *1
Pulse forward current	I_{FP}	100	mA	Duty ratio: 1% Puls width: 0.1 ms
Reverse voltage	V_R	4	V	---
Detector				
Collector-Emitter voltage	V_{CEO}	12	V	---
Emitter-Collector voltage	V_{ECO}	5	V	---
Collector current	I_C	20	mA	---
Collector dissipation	P_C	50	mW	--- *1
Operating temperature	T_{opr}	-30 to 85	°C	--- *1
Storage temperature	T_{stg}	-40 to 100	°C	--- *1
Reflow soldering temperature	T_{sol}	255	°C	10 sec. max. *2

*1. Continuous Forward Current and Collector Power Dissipation must be derated complying. The product should be used without freezing or condensation.

*2. In case of reflow soldering, conditions which are shown at the temperature profile should be kept.

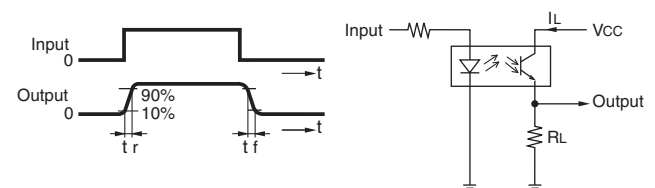
Exterior Specifications

Connecting method	Weight (g)	Material
		Case
SMT	0.2	PPS

Electrical and Optical Characteristics (Ta = 25°C)

Item	Symbol	Value			Unit	Condition
		MIN.	TYP.	MAX.		
Emitter						
Forward voltage	V _F	---	1.2	1.5	V	I _F = 30 mA
Reverse current	I _R	---	0.01	10	μA	V _R = 4 V
Peak emission wavelength	λ _P	---	940	---	nm	I _F = 20 mA
Detector						
Light current	I _L	0.55	---	5.5	mA	I _F = 20 mA, V _{CE} = 10 V
Dark current	I _D	---	10	200	nA	V _{CE} = 10 V, 0 lx
Collector-Emitter saturated voltage	V _{CE} (sat)	---	0.1	0.4	V	I _F = 20 mA, I _L = 0.1 mA
Peak spectral sensitivity wavelength	λ _P	---	900	---	nm	V _{CE} = 5 V
Rising time	t _r	---	11	---	μs	V _{CC} = 5 V, R _L = 100 Ω I _L = 1 mA *
Falling time	t _f	---	14	---	μs	V _{CC} = 5 V, R _L = 100 Ω I _L = 1 mA *

* Refer to the following timing diagram for t_r and t_f .



Engineering Data (Reference value)

Fig 1. Forward Current vs. Collector Dissipation Temperature Rating

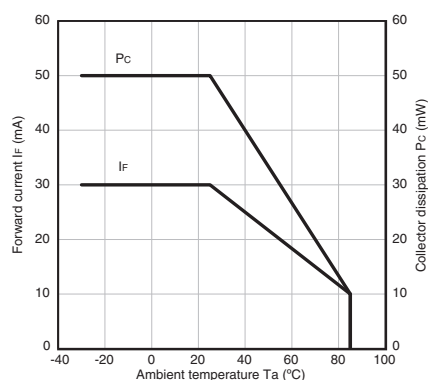


Fig 2. Forward Current vs. Forward Voltage Characteristics (Typical)

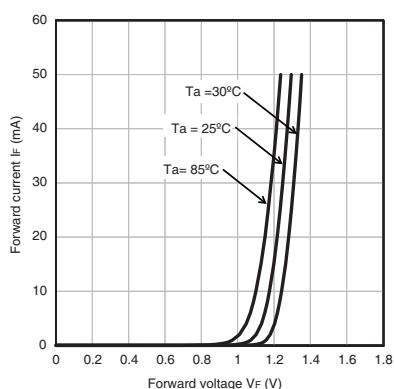


Fig 3. Light Current vs. Forward Current Characteristics (Typical)

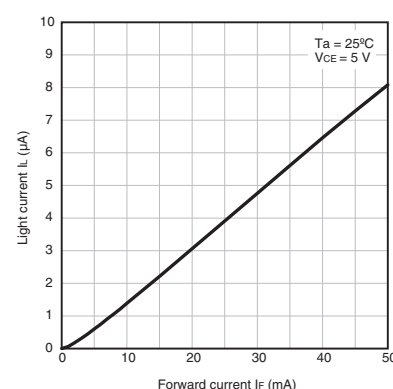


Fig 4. Light Current vs. Collector-Emitter Voltage Characteristics (Typical)

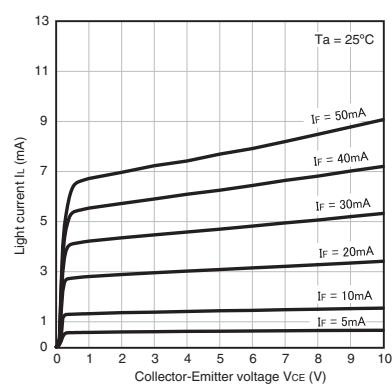


Fig 5. Relative Light Current vs. Ambient Temperature Characteristics (Typical)

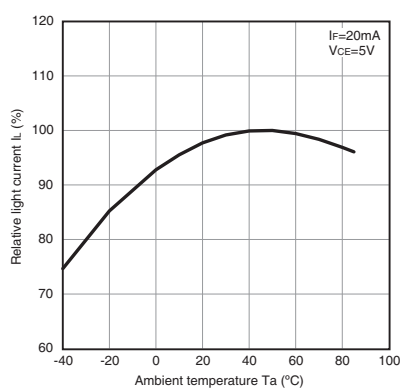


Fig 6. Dark Current vs. Ambient Temperature Characteristics (Typical)

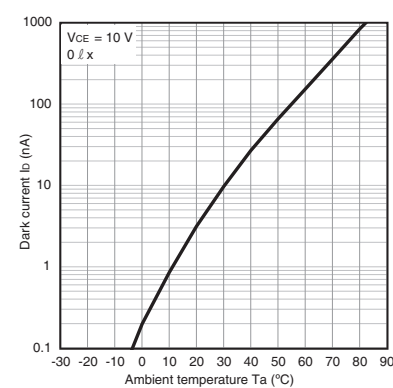


Fig 7. Response Time vs. Load Resistance Characteristics (Typical)

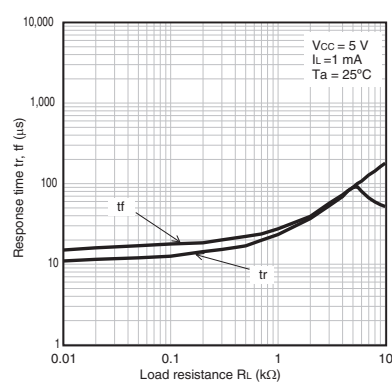


Fig 8. Sensing Position Characteristics (Typical)

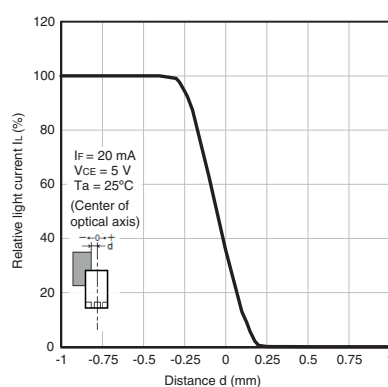


Fig 9. Sensing Position Characteristics (Typical)

