

EE-SX1321

Ultra-Compact Slot / SMD Type (Slot width: 2 mm)

- PCB surface mounting type.
- High resolution with a 0.3-mm-wide aperture.
- Dual-channel output.



⚠ 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	2 mm (slot width)	Emitter 1.4 × 1.4 Detector 1 × 0.3 2ch	Phototransistor (Dual-channel output)	EE-SX1321

Ratings, Characteristics and Exterior Specifications

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rated value	Unit
Emitter			
Forward current	I _F	25 *1	mA
Pulse forward current	I _{FP}	100 *2	mA
Reverse voltage	V _R	5	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	75 *1	mW
Operating temperature	T _{opr}	-30 to +85 *1	°C
Storage temperature	T _{stg}	-40 to +90 *1	°C
Reflow soldering temperature	T _{sol}	255 *3	°C

*1. Refer to the temperature rating chart if the ambient temperature exceeds 25°C.

*2. Duty ratio: 1%, Pulse width: 0.1 ms

*3. Complete soldering within 10 seconds for reflow soldering.

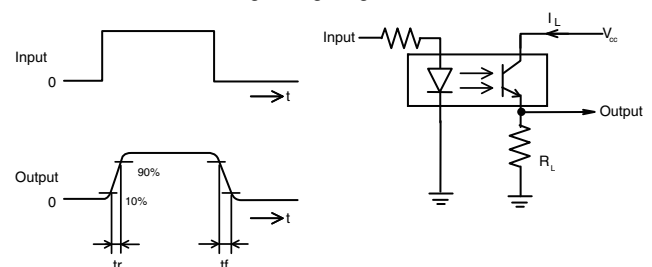
Exterior Specifications

Connecting method	Weight (g)	Material
		Case
SMT	0.1	PPS

Electrical and Optical Characteristics (Ta = 25°C)

Item	Symbol	Value			Unit	Condition
		MIN.	TYP.	MAX.		
Emitter						
Forward voltage	V _F	---	1.1	1.3	V	I _F = 5 mA
Reverse current	I _R	---	---	10	μA	V _R = 5 V
Peak emission wavelength	λ _P	---	940	---	nm	I _F = 20 mA
Detector						
Light current	I _{L1}	150	---	1500	μA	I _F = 5 mA, V _{CE} = 5 V
	I _{L2}	150	---	1500	μA	
Dark current	I _D	---	10	100	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 = 50 μA
Peak spectral sensitivity wavelength	λ _P	---	900	---	nm	V _{CE} = 5 V
Rising time	t _r	---	19	---	μs	V _{CC} = 5 V, R _L = 100 Ω, I _L = 500 μA
Falling time	t _f	---	26	---	μs	V _{CC} = 5 V, R _L = 100 Ω, I _L = 500 μA

Note: 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

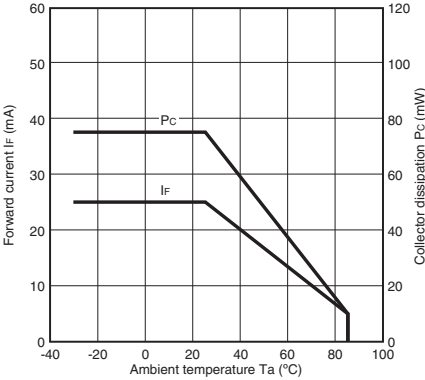


Fig 2. Forward Current vs. Forward Voltage Characteristics (Typical)

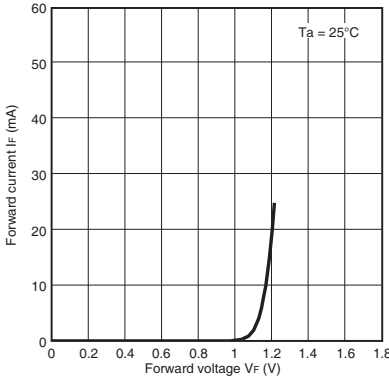


Fig 3. Light Current vs. Forward Current Characteristics (Typical)

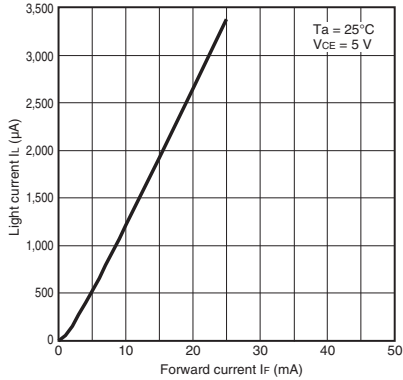


Fig 4. Light Current vs. Collector-Emitter Voltage Characteristics (Typical)

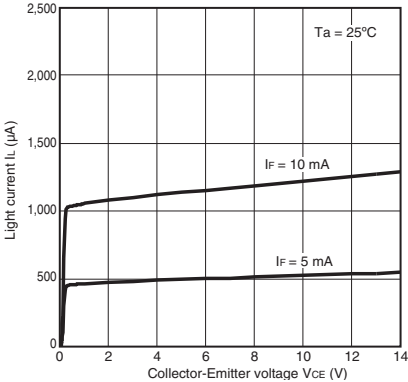


Fig 5. Relative Light Current vs. Ambient Temperature Characteristics (Typical)

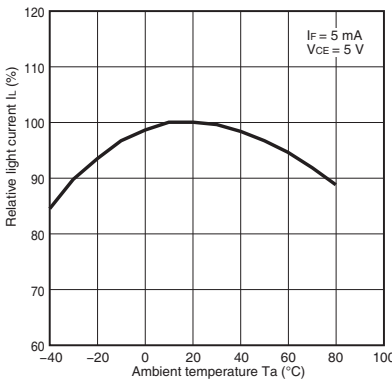


Fig 6. Dark Current vs. Ambient Temperature Characteristics (Typical)

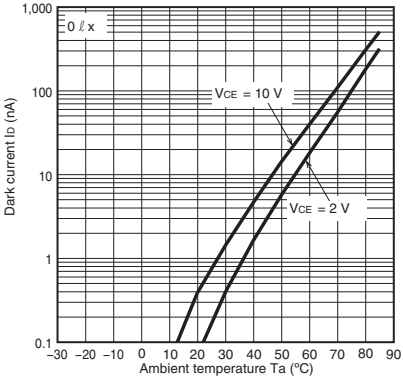


Fig 7. Response Time vs. Load Resistance Characteristics (Typical)

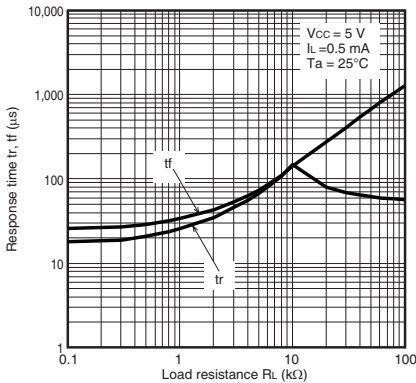


Fig 8. Sensing Position Characteristics (Typical)

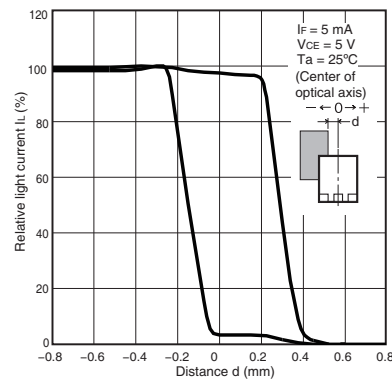


Fig 9. Sensing Position Characteristics (Typical)

