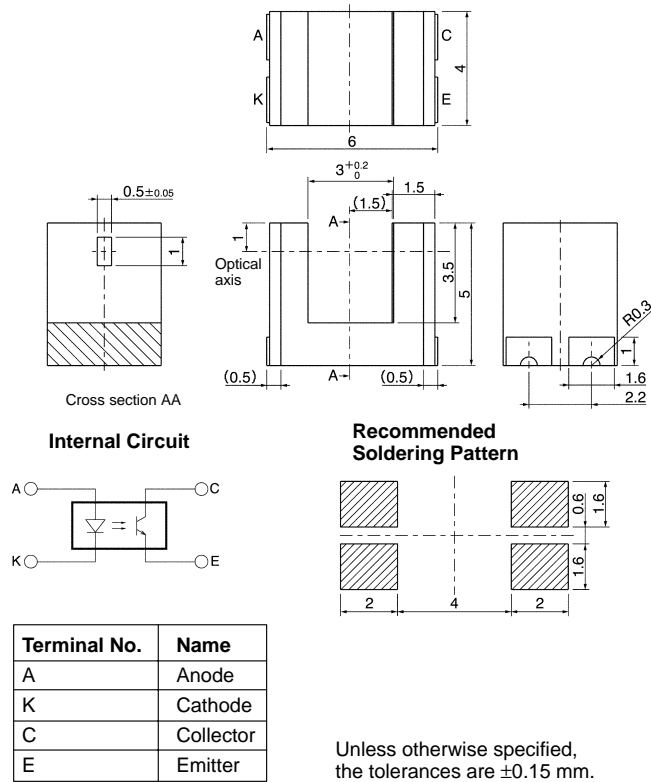


EE-SX1109

Photomicrosensor (Transmissive)

■ Dimensions

Note: All units are in millimeters unless otherwise indicated.



■ Features

- Ultra-compact with a 6-mm-wide sensor and a 3-mm-wide slot.
- PCB surface mounting type.
- High resolution with a 0.5-mm-wide aperture.

■ Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rated value
Emitter	Forward current	I_F 25 mA (see note 1)
	Pulse forward current	I_{FP} 100 mA (see note 2)
	Reverse voltage	V_R 5 V
Detector	Collector–Emitter voltage	V_{CEO} 20 V
	Emitter–Collector voltage	V_{ECO} 5 V
	Collector current	I_C 20 mA
	Collector dissipation	P_C 75 mW (see note 1)
Ambient temperature	Operating	T_{opr} –30°C to 85°C
	Storage	T_{stg} –40°C to 90°C
	Reflow soldering	T_{sol} 240°C (see note 3)
	Manual soldering	T_{sol} 300°C (see note 3)

- Note:
1. Refer to the temperature rating chart if the ambient temperature exceeds 25°C.
 2. Duty: 1/100; Pulse width: 0.1 ms
 3. Complete soldering within 10 seconds for reflow soldering and within 3 seconds for manual soldering.

■ Electrical and Optical Characteristics (Ta = 25°C)

Item	Symbol	Value	Condition
Emitter	Forward voltage	V_F 1.1 V typ., 1.3 V max.	$I_F = 5$ mA
	Reverse current	I_R 10 μ A max.	$V_R = 5$ V
	Peak emission wavelength	λ_P 940 nm typ.	$I_F = 20$ mA
Detector	Light current	I_L 50 μ A min., 150 μ A typ., 500 μ A max.	$I_F = 5$ mA, $V_{CE} = 5$ V
	Dark current	I_D 100 nA max.	$V_{CE} = 10$ V, 0 lx
	Leakage current	I_{LEAK} ---	---
	Collector–Emitter saturated voltage	$V_{CE(sat)}$ 0.1 V typ., 0.4 V max.	$I_F = 20$ mA, $I_L = 50$ μ A
	Peak spectral sensitivity wavelength	λ_P 900 nm typ.	---
Rising time	t_r 10 μ s typ.	$V_{CC} = 5$ V, $R_L = 1$ k Ω , $I_L = 100$ μ A	
Falling time	t_f 10 μ s typ.	$V_{CC} = 5$ V, $R_L = 1$ k Ω , $I_L = 100$ μ A	