



## Characteristics (Ta = -10°C to 65°C)

Object: N8.5 Munsell paper with a reflection factor of 70%.

Item	Value
Operating area (see note 1)	6.5 ±1 mm
Sensitivity variation (see note 2)	-1.4 mV/μm ±10% max.
Resolution (see note 3)	±10 μm max. (Ta = 25°C)
Linearity (see note 4)	2% F.S. (full scale) max.

**Note:** 1. Distance from Mounting Reference Plane to Target.

2. The sensitivity is defined as slope of the line and it represents the variation in the output voltage per unit length between different products.

3. This is the value of the electrical noise width in the output signal converted to a distance under the following conditions.

(1) A/D conversion time: 50 μs max.

(2) Ripple noise in the power supply voltage (Vcc): 10 mVp-p max.

(3) Low-pass filter time constant of the downstream signal processing circuit: 0.4 ms

(4) Distance from mounting reference plane to target: 6.5 mm

4. This is the peak-to-peak value of the deviation of the signal output from a straight line.

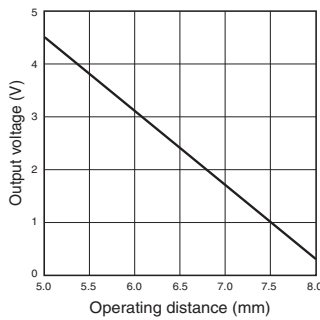
A linearity of 2% F.S. indicates the following value:

(1) Distance full-scale converted value: 2 mm × 0.02 = 0.04 mm (40 μm)

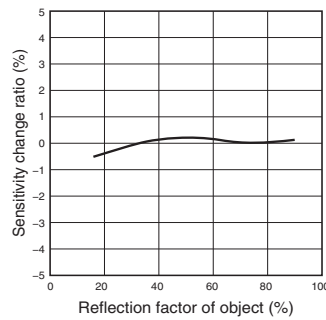
(2) Output voltage converted value: 1.4 mV/μm × 40 μm = 56 mV (for a sensor with a sensitivity of 1.4 mV/μm)

## Engineering Data

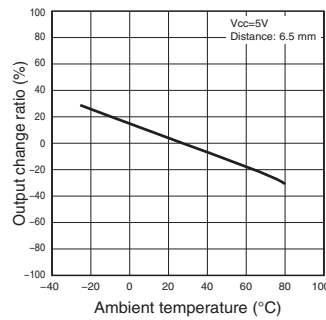
Operating Distance Characteristics (Typical)



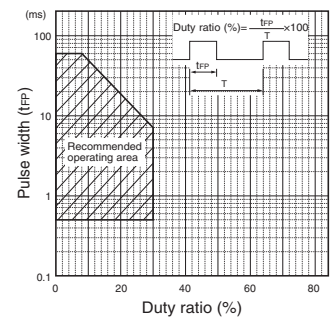
Dependency of Object on Reflection Factor (Typical)



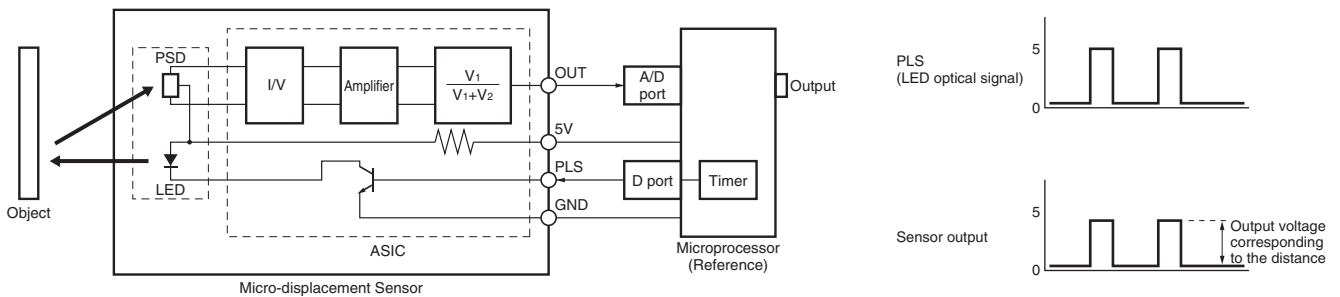
Temperature Characteristics (Typical)



Pulsed Forward Current Rated Curve



## Circuit Diagram



## Typical Application

