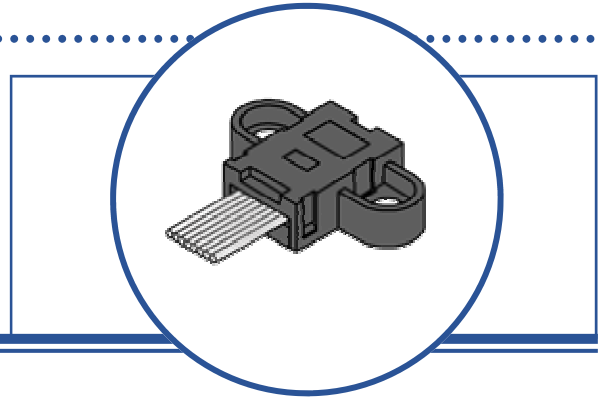


# Slotted Switch OPB780

## Features:

- High-Resolution conversion of Light intensity to Frequency
- Communicates Directly with a Microcontroller
- Single-Supply Operation (2.7V to 5.5V)
- Nonlinearity Error Typically 0.2% at 50 kHz
- Stable 200 ppm/°C Temperature Coefficient



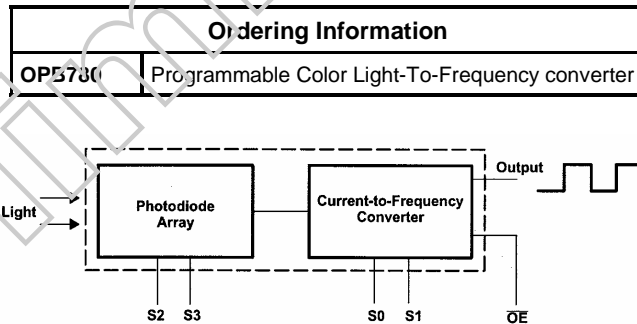
## Description:

The OPB780 programmable color light-to-frequency converter combines configurable silicon photodiodes and a current-to-frequency converter on single monolithic CMOS integrated circuit. The output is a square wave (50% duty cycle) with frequency directly proportional to light intensity (irradiance). The full-scale output frequency can be scaled by one of three preset values via two control input pins. Digital inputs and digital output allow direct interface to a microcontroller or other logic circuitry. Output enable (OE@) places the output in the high-impedance state for multiple-unit sharing of a microcontroller input line.

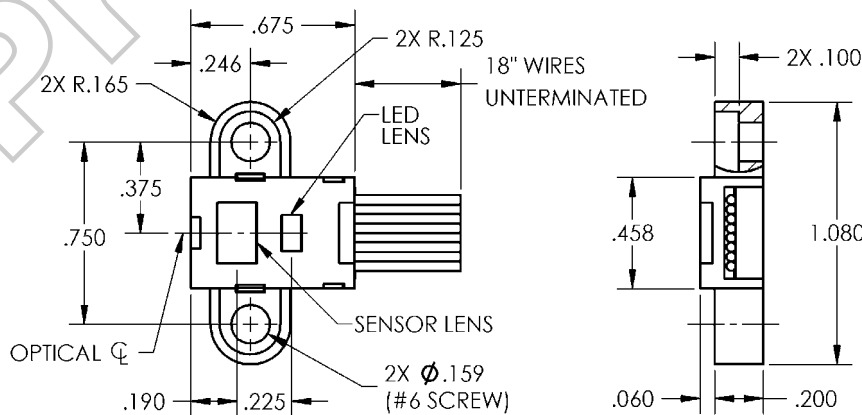
The light-to-frequency converter reads an 8 x 8 array of photodiodes. Sixteen photodiodes have blue filters, 16 photodiodes have green filters, 16 photodiodes have red filters, and 16 photodiodes are clear with no filters. The four types (colors) of photodiodes are interdigitated to minimize the effect of non-uniformity of incident irradiance. All 16 photodiodes of the same color are connected in parallel and which type of photodiode the device uses during operation is pin-selectable.

## Applications:

- Bill Validation
- Object Color Recognition
- Pill Verification
- Vending Machine Object Verification
- Identification of Paint Color
- Badge Color Identification
- Monitor to Printer Matching
- Etc.



Color-Pin #	Description
1	SO
2	S1
3	OE
4	Ground
5	VDD
6	Output
7	S2
8	S3



RoHS

OPTEK reserves the right to make changes at any time in order to improve design and to supply the best product possible.