FEATURES
2.8 mm × 5 mm module with integrated optical components
  Red and infrared (IR) LEDs (ADPD142RI)
  Red and green LEDs (ADPD142RG)
Photodiode
True dual channel 250 mA LED driver
Separate LED and AFE settings for each channel
Dual data registers for each LED return signal
14-bit ADC
20-bit burst accumulator enabling 20 bits per sample period
On-board sample to sample accumulator enabling up to
  27 bits per data read

APPLICATIONS
Optical heart rate monitoring (HRM)
Reflective SpO₂ measurement

GENERAL DESCRIPTION
The ADPD142RG/ADPD142RI are complete photometric systems
designed to stimulate LEDs and measure the corresponding
optical return signals. These systems feature best-in-class
rejection of ambient light interference, both dc and ac. Each
module contains a highly efficient photometric front end, two
LEDs, and a photodiode. The front end consists of a control
block, a 14-bit analog-to-digital converter (ADC) with 20-bit
burst accumulator and two flexible, independently configurable
LED drivers. The analog front end (AFE) handles return data
from each LED on separate data paths, and with the option of
separate AFE settings. The data output and functional con-
figuration occur over a 1.8 V I²C interface. The control circuitry
includes flexible LED signaling and synchronous detection.

For more information about the ADPD142RG/ADPD142RI, contact Analog Devices, Inc., at optical_sensors@analog.com.