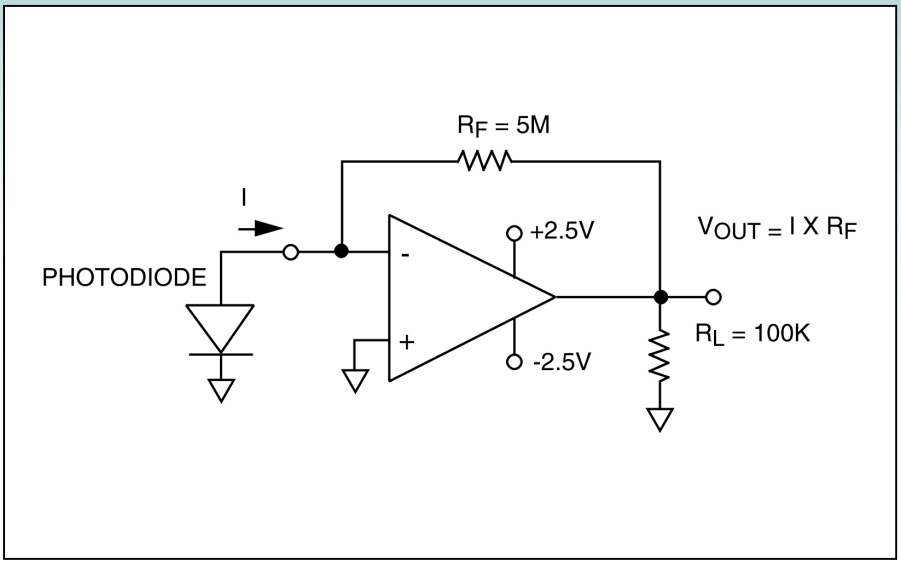
Category: Current to Voltage Converters

CIRCUIT IDEAS FOR DESIGNERS

Schematic no. iv_17004.0

High Precision Current to Voltage Converter



Description

Net current generated by the photodiode (I) is forced through feedback resistor (R_F), assuming zero leakage current through the input of the buffer amplifier. This develops an output voltage equal to (I x R_F) at the output of the amplifier. In this example, the output also drives a load R_L of 100KΩ. Some of the errors produced by this circuit are the amplifier input-leakage current, typically about 1 to 10pA, and the input offset voltage, typically about 1 to 5mV. If it is important to minimize these errors, use an EPAD® op amp such as ALD1722, which has a maximum input current of 10pA and maximum input offset voltage of only 90μV.

Recommended Components

ALD1721, ALD2721 (dual), ALD1722, ALD2722 (dual), ALD1726, ALD2726 (dual)

Other Related Circuit Ideas