

## Product Overview

### RV4141A: Ground Fault Circuit Interrupter (GFCI) Controller, Low Power

For complete documentation, see the data sheet.

The RV4141A is a low-power controller for AC-receptacle, ground-fault circuit interrupters. These devices detect hazardous current paths to ground and ground to neutral faults. The circuit interrupter then disconnects the load from the line before a harmful or lethal shock occurs.

Internally, the RV4141A contains a diode rectifier, shunt regulator, precision sense amplifier, current reference, time-delay circuit, and SCR driver.

Two sense transformers, SCR, solenoid, three resistors, and four capacitors complete the design of the basic circuit interrupter. The simple layout and minimum component count ensure ease of application and long-term reliability. Features not found in other GFCI controllers include a low offset voltage sense amplifier, eliminating the need for a coupling capacitor between the sense transformer and sense amplifier, and an internal rectifier to eliminate high-voltage rectifying diodes.

The RV4141A is powered only during the positive half period of the line voltage, but can sense current faults independent of its phase relative to the line voltage. The gate of the SCR is driven only during the positive half cycle of the line voltage.

### Features

- Powered from the AC line
- Built-in rectifier
- Direct interface to SCR
- 500 $\mu$ A quiescent current
- Precision sense amplifier
- Adjustable time delay
- Minimum external components
- Meets UL943 requirements
- Compatible with 110V or 220V systems

### Applications

- Building & home control
- Consumer appliances

### Part Electrical Specifications

Product	Compliance	Status	Channels	V <sub>CC</sub> Min (V)	V <sub>CC</sub> Max (V)	I <sub>T</sub> Max (mA)	V <sub>I</sub> Typ (V)	T <sub>A</sub> Min (°C)	T <sub>A</sub> Max (°C)	Package Type
RV4141AMT	Pb-free	Active			29	10	27	-35	80	SOIC-8
	Halide free									
RV4141AN	Pb-free Halide free	Active			29	10	27	-35	80	PDIP-8

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