

Power-Off Protection Switches Prevent Damage to Data and Communications Systems

Analog Devices today introduced two power-off protection switches that guarantee an off-state in the absence of a power supply. Unlike standard switches, which can be either open or closed when no power supply is present, ADI's ADG4612 and ADG4613 power-off protection switches ensure an off-state, which prevents potentially damaging current from flowing to circuit boards used in data communications, communications infrastructure systems, and other sensitive equipment. The guaranteed off-state feature is particularly useful in applications where analog signals may be present at the switch inputs before the power supply voltage is on, or where the user has no control over the power supply sequence. The ADG4612 and ADG4613 switches also feature overvoltage protection, which can block signal levels up to 16 V in the off state. The new switches are manufactured on Analog Devices' iCMOS (industrial CMOS) modular manufacturing process. Download the ADG4612, ADG4613 data sheet or order samples.

The low 6.1-ohm (max) on resistance of the new switches is well-suited for data acquisition and gain switching applications, and the resistance profile is flat over the full analog input range, ensuring excellent linearity and low distortion when switching audio signals. The ADG4612 and ADG4613 contain four independent SPST (single-pole/single-throw) switches. Each switch in the ADG4612 is turned on with Logic 1 on the appropriate control input; two switches in the ADG4613 turn on with Logic 1 and two switches turn on with Logic 0—with break-before-make switching action for use in multiplexer applications.

ADG4612 and ADG4613 Switches Key Features and Benefits:

- Switch turns OFF if input > VDD + VT
- Over-voltage protection up to +16 V
- Negative signal capability passes signals down to -5.5 V
- 6.1-ohm max on resistance and 1.75-ohm max on-resistance flatness
- ±3-V to ±5.5-V dual supply
- 3-V to 12-V single supply
- 3-V logic-compatible inputs
- Rail-to-rail operation
- 16-lead TSSOP (thin-shrink small outline package) and 16-lead 3-mm x 3-mm LFCSP (lead frame chip scale package)

Availability and Pricing and Complementary Parts

Product	Availabi lity	Temper ature Range	Price Each Per	Packagi ng
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Published on Electronic Component News (<http://www.ecnmag.com>)

ADG461 2	NOW	-40°C to +85°C	1,000 \$1.87	16-lead TSSOP
				3-mm × 3-mm
				16-lead LFCSP
ADG461 3	NOW	-40°C to +85°C	\$1.87	16-lead TSSOP
				3-mm × 3-mm
				16-lead LFCSP

The ADG4612 and ADG4613 power-off protection circuits are designed to work well with other ADI components, including the ADA4000-1 op amp and the AD7476 ADC (analog-to-digital converter).

Source URL (retrieved on 03/26/2015 - 7:08pm):

<http://www.ecnmag.com/product-releases/2010/11/power-protection-switches-prevent-damage-data-and-communications-systems>