

AS1751, AS1752, AS1753

High-Speed, Low-Voltage, Single-Supply, 0.9Ω, Quad SPST Analog Switches

Product Brief

1 General Description

The AS1751/AS1752/AS1753 are high-speed, low-voltage, quad single-pole/single-throw (SPST) analog switches.

Fast switching speeds, low ON-resistance, and low power consumption make these devices ideal for single-cell battery powered applications.

These highly-reliable devices operate from a single +1.6 to +3.6V supply, and are differentiated by the type and number of switches:

- AS1751 – Four normally open (NO) switches
- AS1752 – Four normally closed (NC) switches
- AS1753 – Two NO switches and Two NC switches

The AS1753 supports break-before-make switching.

With very low ON-resistance (RON), RON matching and RON flatness, the devices can accurately switch signals for sample and hold circuits, digital filters, and op-amp gain switching networks.

The AS1751/AS1752/AS1753 digital logic input is 1.8V CMOS-compatible when using a +3V supply, and all devices can handle Rail-to-Rail signals.

The devices are available in a 3mm x 3mm 16-pin TQFN package and a 14-pin TSSOP package.

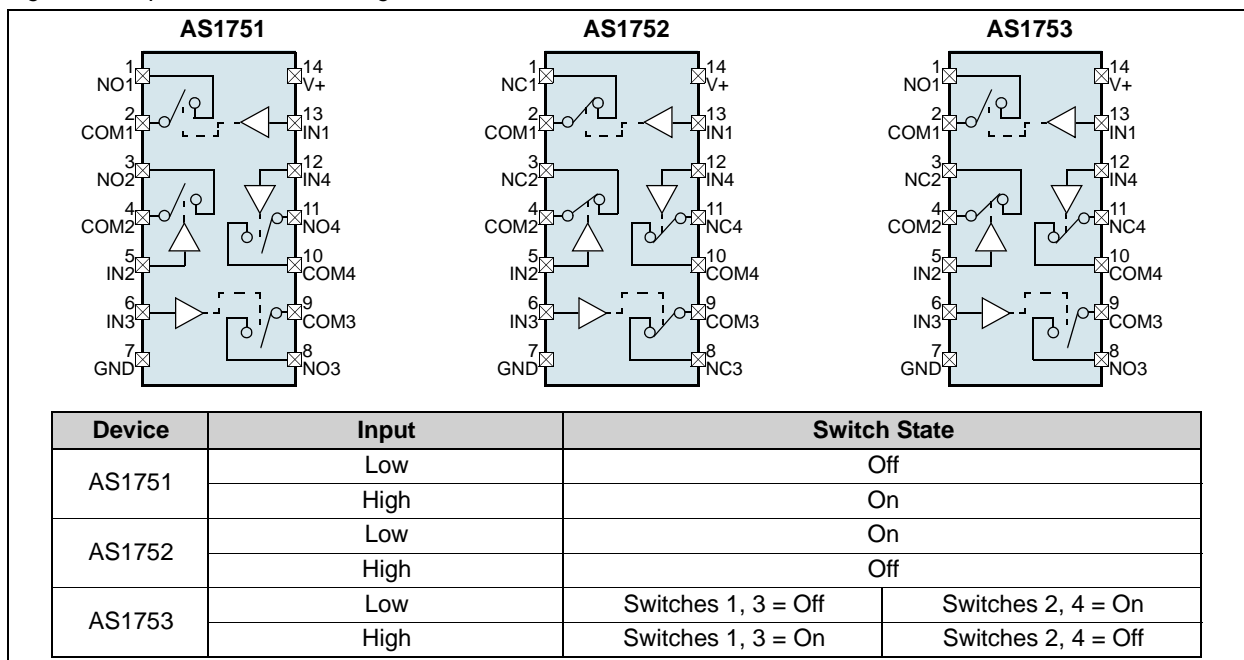
2 Key Features

- ON-Resistance:
 - 0.9Ω (+3V supply)
 - 2.5Ω (+1.8V supply)
- RON Matching:
 - 0.12Ω (+3V supply)
 - 0.25Ω (+1.8V supply)
- RON Flatness: 0.1Ω (+3V Supply)
- Supply Voltage Range: +1.6 to +3.6V
- Switching Speed: tON = 22ns, tOFF = 14ns
- Current-Handling: 250mA Continuous
- Break-Before-Make Switching (AS1753)
- Rail-to-Rail Signal Handling
- 1.8V CMOS Logic Compatible (+3V Supply)
- Operating Temperature Range: -40 to +85°C
- Package Types:
 - 16-pin TQFN (3mm x 3mm)
 - 14-pin TSSOP

3 Applications

The devices are ideal for use in power routing systems, cordless and mobile phones, MP3 players, CD and DVD players, PDAs, handheld computers, digital cameras, hard drives, and any other application where high-speed signal switching is required.

Figure 1. 14-pin TSSOP Block Diagrams



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