

Application: Mobile (Cell Phones & Handheld Computers) Pericom Device: PI5A4599A & PI5A3157 SPDT Analog Switches

Overview

Most mobile appliances today allow the consumer to switch from the built in speaker and microphone to an external source. In the case of a cell phone this might be an earpiece and a clip on a microphone for hands free operation.



This need extends to other applications like Handheld Computers/PDAs, plus portable consumer audio products like CD and MP3 players.

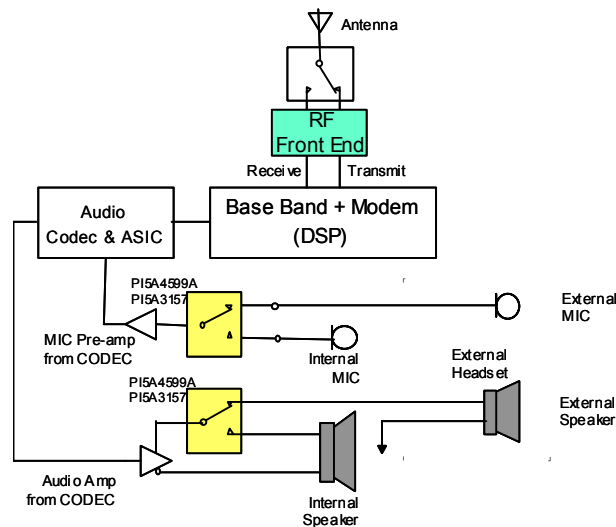
Previously the switching from an internal to external source was done using mechanical relays. This solution was more costly; took up more space; and was proven unreliable over the lifetime of the product.

Today's switching is done by integrated circuits by manufacturers like Maxim, Fairchild, and Pericom.

Pericom's SOTiny SPDT Analog Switch Solution

The PI5A4599A and PI5A3157 SOTiny Low Resistance single-pole double-throw (SPDT) analog switches are ideal products to address the needs of these mobile appliances.

Cellular Application



Pericom in Cell Phone & Handheld Computer

As the figure above and on the next page illustrates, the Pericom Analog Switches are used to switch between the internal and external microphone/speaker.

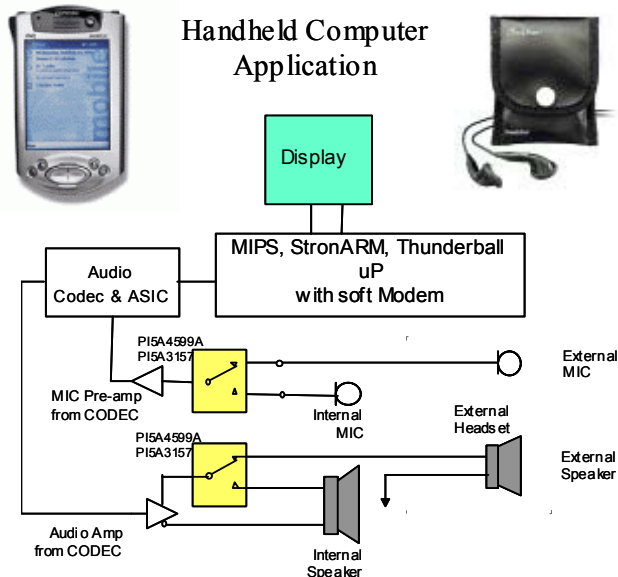
Superior Performance

The PI5A4599A provides the lowest On-Resistance flatness compared to other products on the market today with *typical* values ranging from 0.2 ohms to 0.5 ohms at 5V and 3V supplies respectively. This is superior to Maxim's pin compatible MAX4599 over the full input voltage rail.

The PI5A3157 provides the best On-Resistance of 8 ohms at 3V. Guaranteed Break-Before Make-Switching to ensure no audio popping or clicking during transitions. This makes Pericom's device an ideal choice over the Fairchild NC7SZ3157.

SOTiny packaging options:

Both products are offered in the SOTiny SC70-6 pin package. In Q3CY02 Pericom will offer both devices in the Thin Dual in Line Flat No-lead (TDFN) packaging option.



Key Features & Specifications:

PI5A4599A [PI5A4599A Data sheet](#)

- Low On-Resistance: 10 ohms max @ 5V
- Ron Matching: 2 ohms max.
- Ron Flatness 0.2 ohms @ 5v typical
- Single power supply operation 2V – 6V
- Guaranteed Break-Before Make-Switching
- 225 MHz Channel Bandwidth
- 76 dB Off-Isolation at 1 MHz
- Low Power Consumption: 5uW
- SOTiny SC70-6 packaging

PI5A3157 [PI5A3175 Data sheet](#)

- Low On-Resistance: 8 ohms max @ 3V
- Ron Matching: 0.3 ohms typical @1.65V
- Control Input Overvoltage Tolerance 5.5 min.
- Single power supply operation 1.65V – 5V
- Guaranteed Break-Before Make-Switching
- 250 MHz Channel Bandwidth
- Fast Transition speed: 5.2 ns @ 5V
- Low Power Consumption: 5uW
- SOTiny SC70-6 packaging
 - [SC70-6 SOTiny Package Outline Drawing](#)

Key Benefits

- Improved Performance vs. Competing Solutions
- Lower Cost Solution
- Minimizes Layout constraints

Success to Date

Currently designed in at multiple market leaders in mobile appliances.

Additional Information Available

- Complete Specifications on Web Site
- Brief Customer Oriented Power Point Presentation
 - o Request from Refugio Jones at rjones@pericom.com
- Press Release: January 10, 2002
 - o [SOTiny Analog Switch](#)

Product Status

- Samples: Today & in SOTiny Sample kit
- Production: Today, 2-3 Week Leadtime

Contact Information

Please contact your local Pericom sales representative or franchised distributor

Or contact Pericom's Marketing department directly

Refugio Jones
 Product Marketing Manager,
 Pericom Semiconductor
 408-435-0800 x402
rjones@pericom.com