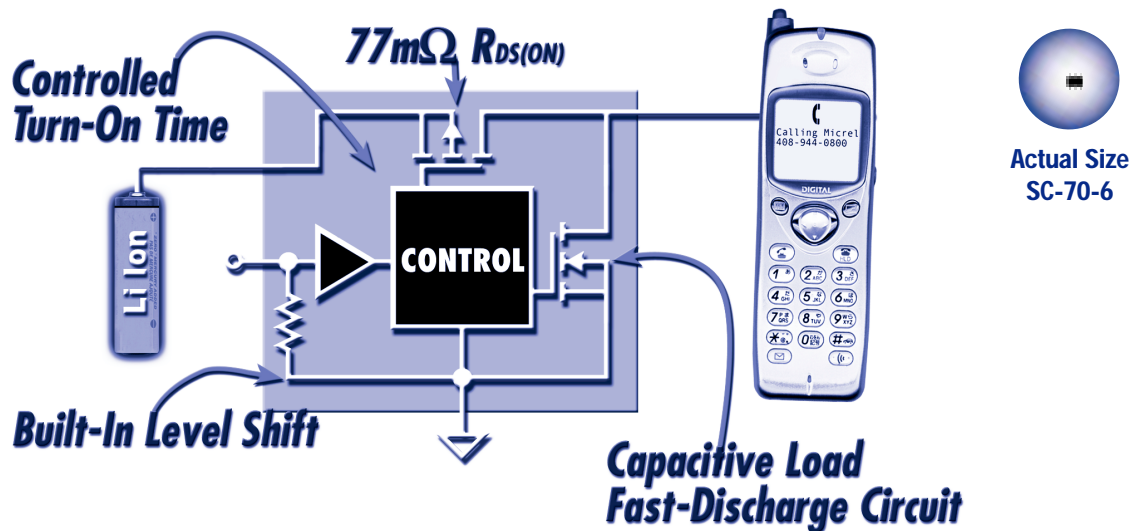


# Industry's Lowest $R_{DS(ON)}$ Teeny™ SC-70 High-Side Switches and MOSFETs



Targeted for load switching in portable electronics, the MIC940xx is a new family of high-side switches with the industry's lowest on-resistance. Ideally suited for driving up to 2A of current in space-sensitive applications, these switches are housed in the Teeny™ SC70-6 and SOT-143-4 packages.

## Smart Load Switches

The MIC94060 and MIC94061 are smart load switches; they incorporate a great deal of integration that helps save space and cost. These switches include built-in level shift and slew rate control circuitry. The internal level-shift circuitry allows the MIC94060/61 to be controlled by a low logic signal, such as 1.5V. The slew rate control prevents inrush currents during turn-on from causing glitches on the supply rail. The MIC94061 also includes output pull-down circuitry to quickly discharge a capacitive load when the switch is turned off. This feature helps to further reduce component cost and PCB space.

## Simple P-Channel MOSFETs

The MIC94050, MIC94051, MIC94052, and MIC92053 are four new P-Channel MOSFETs. Featuring the lowest on-resistance, the MIC94052 and MIC94053 are available in the SC-70-6 package.

Available in the SOT-143-4 package, the MIC94050 and MIC94051 are 4-terminal devices. The 4<sup>th</sup> pin allows access to the parasitic diode, making the MIC94050/1 ideal for reverse blocking applications.

The MIC94051/3 includes a built-in  $V_{GS}$  pull-down resistor to keep it OFF until it is actively pulled down. This eliminates extra components and saves valuable real estate on the PCB.

## MIC94060/61 Features

- ◆ Lowest  $R_{(ON)}$  P-MOSFET
  - 77m $\Omega$  (typ.) at  $V_{GS} = 4.5V$
  - 2A continuous current
- ◆ 1.8V to 5.5V input range
- ◆ Built-in level shift
  - Can be driven by 1.5V logic
- ◆ Built-in slew rate control
- ◆ Low 3 $\mu$ A quiescent current
- ◆ Built-in fast-off load discharge circuit (MIC94061)
- ◆ Teeny™ SC-70-6 package
- ◆ -40°C to +150°C junction temperature

## MIC94050/51/52/53 Features

- ◆ Lowest  $R_{(ON)}$  P-MOSFET (MIC94052/53)
  - 70m $\Omega$  (typ.) at  $V_{GS} = 4.5V$
  - 2A continuous current
- ◆ Low  $R_{(ON)}$  P-MOSFET (MIC94050/51)
  - 125m $\Omega$  (typ.) at  $V_{GS} = 4.5V$
- ◆ Internal  $V_{GS}$  pull-up resistor (MIC94051/53)
- ◆ Teeny™ SC-70-6 package (MIC94052/53)
- ◆ SOT-143-4 package (MIC94050/51)
- ◆ -40°C to +150°C junction temperature

## MIC940xx Ordering Information

Part Number	$V_{IN}$ Range	$R_{DS(ON)}$ (typ.)	$I_D$ (max.)	Package	Comment
MIC94060	1.8V to 5.5V	77m $\Omega$	2.0A	SC-70-6	Smart load switch.
MIC94061	1.8V to 5.5V	77m $\Omega$	2.0A	SC-70-6	Smart load switch w/capacitive load discharge circuit.
MIC94052	1.8V to 5.5V	70m $\Omega$	2.0A	SC-70-6	P-Channel MOSFET.
MIC94053	1.8V to 5.5V	70m $\Omega$	2.0A	SC-70-6	P-Channel MOSFET w/internal gate pull-up resistor.
MIC94050	1.8V to 5.5V	125m $\Omega$	1.8A	SOT-143-4	P-Channel MOSFET.
MIC94051	1.8V to 5.5V	125m $\Omega$	1.8A	SOT-143-4	P-Channel MOSFET w/internal gate pull-up resistor.

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