Load Switches Provide Power Efficiency, Advanced Protection

High-complexity mobile devices, such as smart phones, tablets, digital cameras and other consumer goods require seamless power management and battery switching in order to provide greater flexibility and better reliability. Fairchild Semiconductor's IntelliMAX [1]family of advanced load management switches help designers increase system protection and reduce complexity in their designs while achieving greater system power and reliability.

With features such as slew rate control to prevent inrush currents, over-current limit and thermal shutdown protection, reverse current blocking and low operating input voltage, Fairchild's comprehensive portfolio of IntelliMAX smart load switches are capable of handling a wide range of applications with multi-channel configurations and high-voltage and current loads. The expansion of the IntelliMAX series addresses the dynamic power challenges of light industrial applications with one-chip solutions that provide designers off-the-shelf capability for their design needs, reduced component counts and increased efficiency.

For smart devices and portable storage devices that require a high current capability and low ON-resistance solution for power path management, the FPF1039 [2] and FPF1048 [3] switches offer an ON-resistance of 20m? and 23m?, and an input voltage range of 1.2V – 5.5V and 1.5V – 5.5V, demonstrating exceptionally low shutdown current drain to help facilitate compliance in low-standby power applications. The optimized slew rate controlled turn-on characteristics with TR = 2.7mS prevents voltage droop on supply rails with bulk capacitances as large as 200µF. The FPF1048 product also offers True Reverse Current Block to avoid unwanted reverse power regardless of the device being on or off.

Full-function load switches with adjustable current limits, such as the FPF2165R [4] and FPF2195 [5], are well suited for applications with physical connectors like USB and HDMI™ devices that may encounter large current conditions. Input power budget control can be easily adjusted with a current limit with an external resistor which offers reverse current blocking to prevent unwanted reverse current when the device is turned off. The devices operate in a constant-current mode to help protect against current damage and maintain limited current after a current limit fault.

Suitable for wireless charging applications with a dual-input single-output (DISO) load switch, the FPF1320 [6] and FPF1321 [7] devices perform seamless power-

source transitions between two input power rails using the SEL pin with advanced break-before-make operation. These devices are designed to interface directly with low-voltage control signal General Purpose Input Output (GIPO) applications.

Please contact us on the web at http://www.fairchildsemi.com [8].

July 25, 2012

Source URL (retrieved on *03/14/2014 - 12:35am*):
http://www.wirelessdesignmag.com/product-releases/2012/07/load-switches-provide-power-efficiency-advanced-protection?qt-blogs=0

Links:
[1] http://www.fairchildsemi.com/products/loadswitches_IntelliMAX/index.html
[2] http://www.fairchildsemi.com/pf/FP/FPF1039.html
[3] http://www.fairchildsemi.com/pf/FP/FPF1048.html
[4] http://www.fairchildsemi.com/pf/FP/FPF2165R.html
[5] http://www.fairchildsemi.com/pf/FP/FPF2195.html
[6] http://www.fairchildsemi.com/pf/FP/FPF1320.html
[7] http://www.fairchildsemi.com/pf/FP/FPF1321.html
[8] http://www.fairchildsemi.com