FAIRCHILD

SEMICONDUCTOR®

October 2007

FSA6157 / FSA6157T Low-R$_{ON}$ SPDT (0.8Ω) Negative-Swing Audio or Video Switch

Features

- 0.8Ω Typical On Resistance (R$_{ON}$) for +2.7V Supply
- 0.45Ω Maximum R$_{ON}$ Flatness for +2.7V Supply
- -3db Bandwidth: > 50MHz
- Low I$_{CCT}$ Current Over an Expanded Control Input Range
- Packaged in Pb-free 6-Lead MicroPak™ (1.0 x 1.4mm)
- Power-Off Protection on All I/O Ports
- Broad V$_{CC}$ Operating Range: 1.65 to 4.3V
- HBM JEDEC: JESD22-A114
  − I/O to GND: 12kV
  − Power to GND: 16kV
- Noise Reduction Termination Resistors in FSA6157T

Applications

- Cell Phone, PDA, Digital Camera, and Notebook
- LCD Monitor, TV, and Set-Top Box

Description

The FSA6157 is a high-performance, Single Pole Double Throw (SPDT) analog switch that features a low R$_{ON}$ of 0.8Ω (typical) at 2.7V supply. The FSA6157 operates over a wide V$_{CC}$ range of 1.65V to 4.3V and is designed for break-before-make operation. The select input is TTL-level compatible.

The FSA6157 features very low quiescent current even when the control voltage is lower than the V$_{CC}$ supply. This feature suits mobile handset applications by allowing direct interface with baseband processor general-purpose I/Os with minimal battery consumption.

The FSA6157T includes termination resistors to improve the susceptibility to noise during overshoot excursions, off-isolation coupling, or "pop-minimization."

IMPORTANT NOTE:

For additional performance information, please contact analogswitch@fairchildsemi.com.

Ordering Information

Part Number	Top Mark	Package Description
FSA6157L6X	GT	6-Lead, MicroPak™, 1.0mm wide, JEDEC MO-255
FSA6157TL6X (Preliminary)		6-Lead, MicroPak™, 1.0mm wide, JEDEC MO-255

All packages are lead free per JEDEC: J-STD-020B standard.
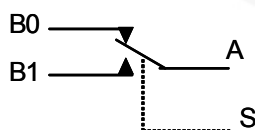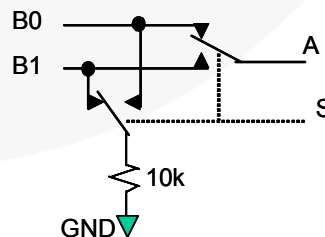
Analog Symbols

Figure 1.   FSA6157

Figure 2.   FSA6157T (with Noise Termination Resistors)

FAIRCHILD
SEMICONDUCTOR®

TRADEMARKS

The following are registered and unregistered trademarks and service marks Fairchild Semiconductor owns or is authorized to use and is not intended to be an exhaustive list of all such trademarks.

ACEx®	Green FPS™	Power247®	SuperSOT™-8
Build it Now™	Green FPS™ e-Series™	POWEREDGE®	SyncFET™
CorePLUS™	GTO™	Power-SPM™	The Power Franchise®
CROSSVOLT™	i-Lo™	PowerTrench®	
CTL™	IntelliMAX™	Programmable Active Droop™	the power franchise
Current Transfer Logic™	ISOPLANAR™	QFET®	
EcoSPARK®	MegaBuck™	QS™	TinyBoost™
F®	MICROCOUPLER™	QT Optoelectronics™	TinyBuck™
Fairchild®	MicroFET™	Quiet Series™	TinyLogic®
Fairchild Semiconductor®	MicroPak™	RapidConfigure™	TINYOPTO™
FACT Quiet Series™	MillerDrive™	SMART START™	TinyPower™
FACT®	Motion-SPM™	SPM®	TinyPWM™
FAST®	OPTOLOGIC®	STEALTH™	TinyWire™
FastvCore™	OPTOPLANAR®	SuperFET™	μSerDes™
FPS™	®	SuperSOT™-3	UHC®
FRFET®	PDP-SPM™	SuperSOT™-6	UniFET™
Global Power Resource℠	Power220®		VCX™

DISCLAIMER

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION, OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS. THESE SPECIFICATIONS DO NOT EXPAND THE TERMS OF FAIRCHILD'S WORLDWIDE TERMS AND CONDITIONS, SPECIFICALLY THE WARRANTY THEREIN, WHICH COVERS THESE PRODUCTS.

LIFE SUPPORT POLICY

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF FAIRCHILD SEMICONDUCTOR CORPORATION.

As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury of the user.

2. A critical component in any component of a life support, device, or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data; supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild Semiconductor. The datasheet is printed for reference information only.

Rev. I31