

High-Speed USB 2.0 (480Mbps) DPDT Switch

FEATURES

- R_{ON} is typically 6Ω at $V_{CC} = 3.3V$
- V_{CC} : 1.65V to 4.5V
- Low Crosstalk: $-45dB$ @ 250MHz
- Low Bit-to-Bit Skew: 50ps (typ.)
- Low Current Consumption: $1.0\mu A$
- Near-Zero Propagation Delay: 250ps
- Channel On-Capacitance: $3.5pF$ (typ.)
- Typical Bandwidth: $> 750MHz$
- Break-Before-Make Switching
- Packages: QFN10-1.8x1.4 and MSOP10

APPLICATIONS

- USB 2.0 Signal Routing
- Differential Signal Data Routing
- Digital Cameras and Camcorders
- Portable Instrumentation
- Set-Top Box
- PADS

GENERAL DESCRIPTIONS

The ASW7227 is a high-speed, low-power double-pole double-throw (DPDT) analog switch that operates from a single 1.65V to 4.5V power supply.

The ASW7227 is designed for the switching of high-speed USB 2.0 signals in handset and consumer applications, such as cell phones, digital cameras, and notebooks with hubs or controllers with limited USB I/Os.

The ASW7227 has low bit-to-bit skew and high channel-to-channel noise isolation, and is compatible with various standards, such as high-speed USB 2.0 (480Mbps). Each switch is bidirectional and offers little or no attenuation of the high-speed signals at the outputs.

The ASW7227 contains special circuitry on the D+/D- pins which allows the device to withstand a V_{BUS} short to D+ or D- when the USB devices are either powered off or powered on.

The ASW7227 is available in MSOP10 and UTQFN10L-1.4x1.8 packages. It operates over an ambient temperature range of $-40^{\circ}C$ to $+85^{\circ}C$.

BLOCK DIAGRAM

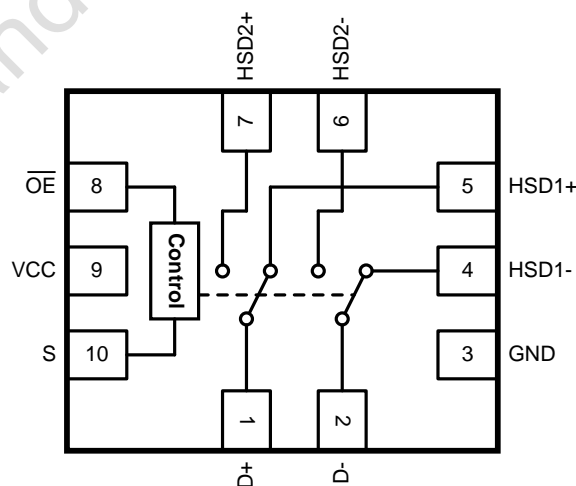


Figure 1, Block Diagram

PIN DIAGRAM

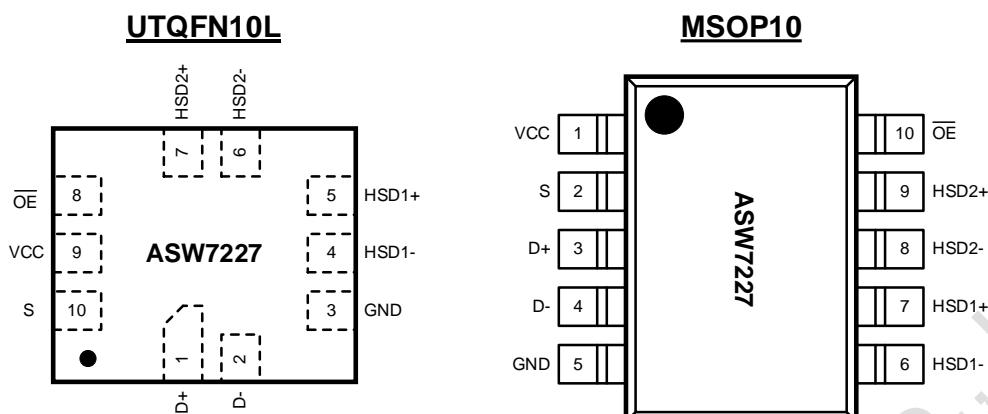


Figure 2, Pin Diagram (Top View)

PIN DESCRIPTIONS

PIN No.		PIN NAME	TYPE	DESCRIPTIONS
UTQFN10L	MSOP10			
1	3	D+	I/O	USB Data Bus
2	4	D-	I/O	USB Data Bus
3	5	GND	GROUND	Ground
4	6	HSD1-	I/O	Multiplexed Source Inputs
5	7	HSD1+	I/O	Multiplexed Source Inputs
6	8	HSD2-	I/O	Multiplexed Source Inputs
7	9	HSD2+	I/O	Multiplexed Source Inputs
8	10	$\overline{\text{OE}}$	I	Output Enable, Active Low
9	1	VCC	POWER	Power Supply
10	2	S	I	Select Input

FUNCTION TRUTH TABLE

c	S	HSD1+, HSD1-	HSD2+, HSD2-
0	0	ON	OFF
0	1	OFF	ON
1	X	OFF	OFF