

## General Description

The TCS9856 is a high-speed CMOS low voltage dual analog SP3T (Single Pole Triple Throw) switch or Dual 3:1 Multiplexer/Demultiplexer Switch fabricated in silicon gate CMOS technology. It is designed to operate from 1.65V to 4.3V, making this device ideal for portable applications.

The device offers very low ON-Resistance (<math><1.0\Omega</math>) at  $V_{CC} = 4.3V$ . The disabling and enabling of switches are done by setting the IN1 and IN2 control pins. Additional key features are fast switching speed, and Ultra Low Power Consumption. All inputs and outputs are equipped with protection circuits against static discharge, giving them ESD immunity and transient excess voltage.

## Features

- High Speed:
  - $t_{PD} = 0.3ns$  (TYP.) @  $V_{CC} = 3.0V$
  - $t_{PD} = 0.4ns$  (TYP.) @  $V_{CC} = 2.3V$
- Ultra Low Power Dissipation:
  - $I_{CC} = 0.2\mu A$  (MAX.) @  $T_A = 85^\circ C$
- Low "ON" Resistance  $V_{IN} = 0V$ :
  - $R_{ON} = 1.1\Omega$  (MAX.  $T_A = 25^\circ C$ ) @  $V_{CC}=4.3V$
  - $R_{ON} = 1.5\Omega$  (MAX.  $T_A = 25^\circ C$ ) @  $V_{CC}=3.0V$
  - $R_{ON} = 1.8\Omega$  (MAX.  $T_A = 25^\circ C$ ) @  $V_{CC}=2.3V$
- Wide Operating Voltage Range:
  - $V_{CC} = 1.65V$  to  $4.3V$  Single Supply
- 4.3V Tolerant And 1.8V Compatible Threshold On Digital Control Input at  $V_{CC} = 2.3$  to  $4.3V$
- Latch-Up Performance Exceeds 300mA
- ESD Performance (Analog Channel. Vs. GND): HBM >2kV
- Part No. and package

Part No.	Package	MSL
TCS9856-QL	QFN12 (2.2 mm×1.4 mm)	Level 1

## Pin Configuration

