General Description

The TCS3533is designed to drive AMOLED displays (Active Matrix Organic Light Emitting Diode) requiring V(AVDD), V(ELVDD) and V(ELVSS). The device integrates a boost converter for V(ELVDD), an inverting buck-boost converter for V(ELVSS) and a boost converter for V(AVDD), which are suitable for battery operated products. The digital interface control pin(CTRL) allows programming V(AVDD), V(ELVDD) and V(ELVSS) in digital steps. The TCS3533uses a novel technology enabling excellent line and load regulation.

Applications

- Cellular Phones
- Portable Media Players
- Ultra Mobile Devices
- GPS Receivers
- White LED Backlighting for Media Form Factor Display

Features

- 2.9V to 4.5V Input Voltage Range
- Synchronous Boost Converter (AVDD)
  5.8V to 7.9V Output Voltage (programmable)
  6.1V Default Output Voltage
  1% Accuracy
  80mA Output Current Capability
  135mA Output Current Protection
  V_I to V_O and V_O to V_I Isolation
- Synchronous Boost Converter (ELVDD)
  4.6V to 5V Output Voltage (programmable)
  4.6V Default Output Voltage
  0.5% Accuracy
  500mA Output Current Capability
  External Output Voltage Sensing Pin for Load Drop Compensation
  Excellent Line Transient Response
  V_I to V_O and V_O to V_I Isolation
- Synchronous Inverting Buck-Boost Converter（ELVSS）
  –5.4V to –1.4V Output Voltage（programmable）
  –2.5V Default Output Voltage
  1.2% Accuracy at –2.5 V (±30 mV)
  500mA Output Current Capability
  V_I to V_O and V_O to V_I Isolation
- Single-Wire Digital Interface for Programming
- Short Circuit Protection
- Thermal Shutdown
- Available in 3mm × 3mm x 0.75mm 16Pin QFN Package

Pin Configuration

QFN3X3-16L (TOP VIEW)

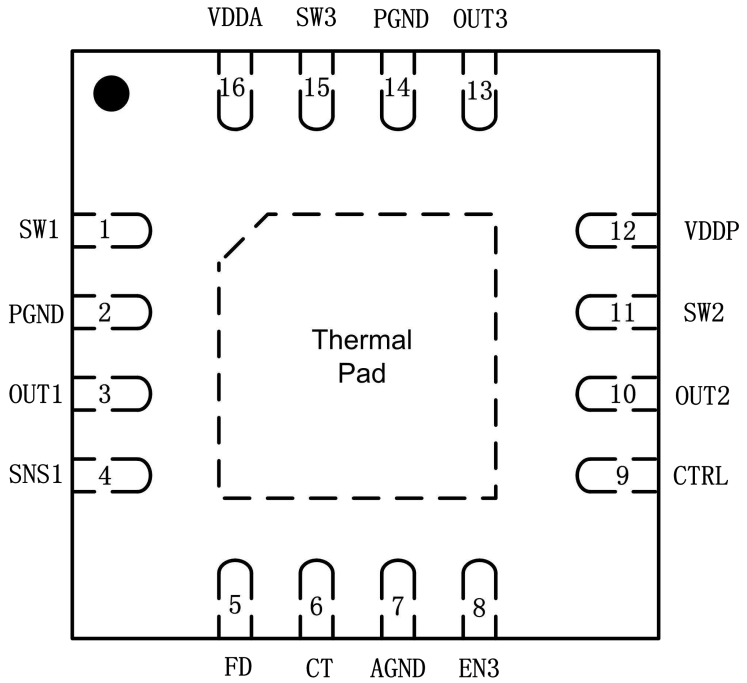

Figure 1, Pin Assignments of TCS3533