USB Type-C Analog Audio Switch With Protection Function

■ General Description

OCP96011 is a high-performance USB Type−C port multimedia switch which supports USB2.0 signal, analog audio, sideband use wires and analog microphone signal.

OCP96011 also supports high voltage on SBUx signal and USB signal on USB Type−C receptacle side.

The device is a RoHS compliant 25-Ball 2.23mm x 2.27mm WLCSP.

■ Features

- Wide 2.7V to 5.5V Operating Input Range
- USB Switch
  - SDD_{21} -3dB bandwidth: 1000MHz
  - Ron: 3Ω (Typ.)
- Audio Switch
  - Signal range: -3V to +3V
  - THD+N=-108dB @ 32Ω,1Vrms, f=20Hz~20kHz
  - Ron: 1Ω (Typ.)
- High Voltage Protection
  - 20.5V DC tolerance on connector side Pins
  - Over voltage protection
- OMTP and CTIA Pinout Support
- Available in 25-Ball WLCSP
- -40℃ to +85℃ Operating Temperature Range

■ Applications

- Mobile-phones
- Tablets
- Notebook

■ Pin Configuration

WLCSP-25 (Top View)

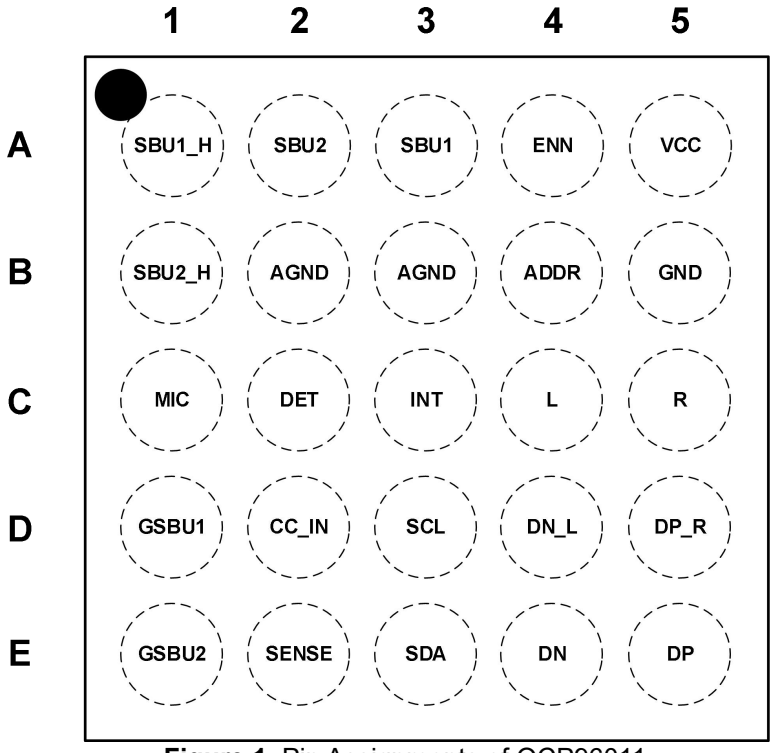

Figure 1, Pin Assignments of OCP96011

■ Pin Descriptions

Pin	Pin Name	Pin Function
A1	SBU1_H	Host Side Sideband Use Wire 1
A2	SBU2	Sideband use wire 2
A3	SBU1	Sideband use wire 1
A4	ENN	Chip Enable, active low, internal pull-down by 470 k
A5	VCC	Power Supply (2.7 to 5.5 V)
B1	SBU2_H	Host Side Sideband Use Wire 2
B2, B3	AGND	Audio signal ground
B4	ADDR	I2C slave address pin
B5	GND	Chip ground
C1	MIC	Microphone signal
C2	DET	Push-pull output. When CC_IN > 1.5 V, DET is low and CC_IN < 1.2 V, DET is high
C3	INT	I2C Interrupt output, active low (open drain)
C4	L	Audio – Left Channel
C5	R	Audio – Right Channel
D1	GSBU1	Audio sense path 1 to headset jack GND
D2	CC_IN	Audio accessory attachment detection input
D3	SCL	I2C clock
D4	DN_L	USB/Audio Common Connector
D5	DP_R	USB/Audio Common Connector
E1	GSBU2	Audio sense path 2 to headset jack GND
E2	SENSE	Audio ground reference output
E3	SDA	I2C data
E4	DN	USB Data (Differential –)
E5	DP	USB Data (Differential +)

■ Typical Application Circuit

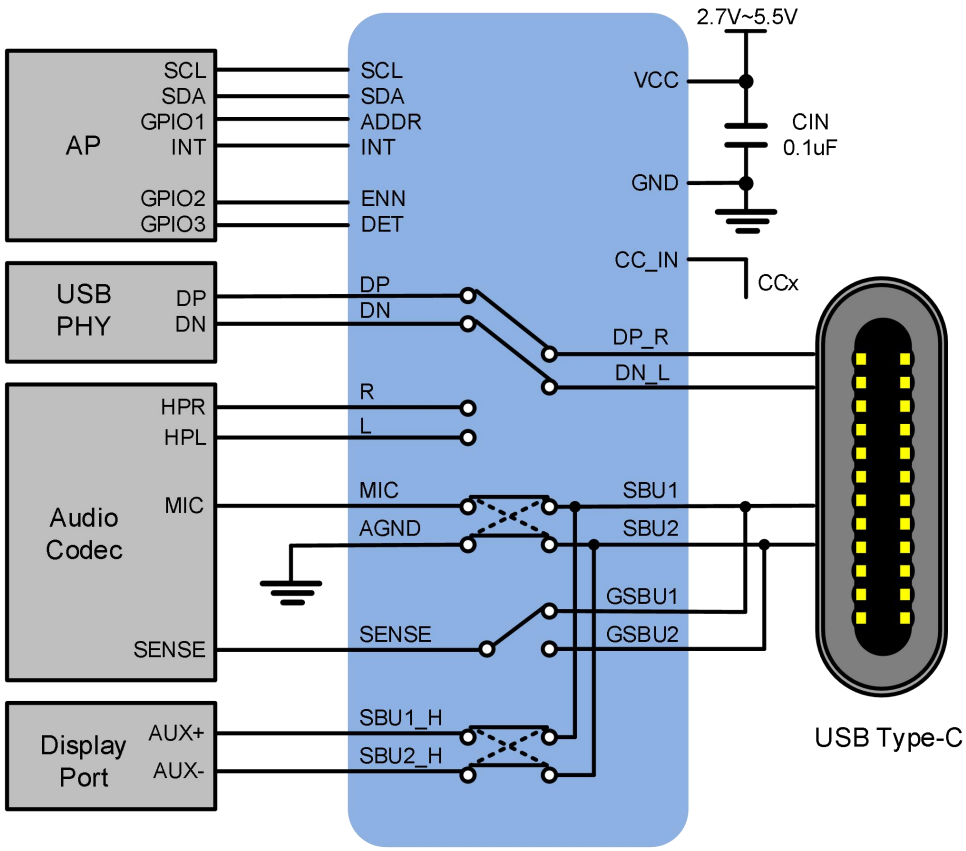

Figure 2, Typical Application Block diagram of OCP96011