Product Overview

LV56851UV: LDO Regulator, 5-Channel, with 2 High-Side Switches

For complete documentation, see the data sheet.

The LV56851UV is a multiple output linear voltage regulator IC, which allows reduction of quiescent current. The LV56851UV is specifically designed to address automotive infotainment systems power supply requirements.The LV56851UV integrates 5 linear regulator outputs, 1 high side power switch, I2C-bus communication, ACC detection, battery voltage detection, over-current limiter, overvoltage protection and thermal shut down.

Features

- Low consumption current: 60µA (typ, VDD output is in operation)
- 5 regulator outputs & 1 high side switch
- ACC and Battery voltage detection
- I2C-bus communication interface
- RESET function
- Over-current and over-voltage protection
- Thermal shutdown: Typ 175°C , Thermal Warning: Typ 140°C
- Package : HZIP15
- AEC-Q100 Qualified and PPAP capable

Benefits

- Cost and space saving as only a few external device is required.
- Good flexibility without external device change.
- A wealth of protection functions improve the safety of the application.

Applications

- Power management

End Products

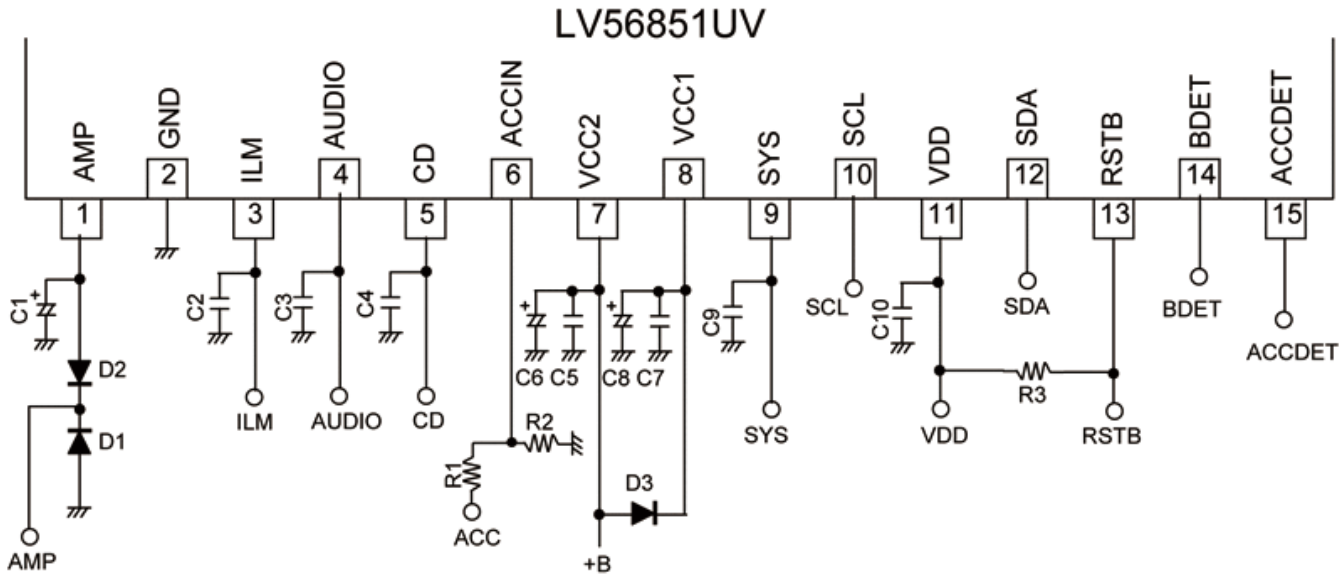
- Automotive infotainment system

Part Electrical Specifications

Product	Compliance	Status	Output	Polarity	V_O (V)	I_O Typ (A)	V_I Min (V)	V_I Max (V)	V_{DO} Typ (V)	I_q Typ (mA)	PSRR (dB)	Noise (μV_{rms})	Enable	Power Good	Package Type
LV56851UV-XH	AEC Qualified PPAP Capable Pb-free Halide free	Active	Penta	Positive	10.5 7 5 8 12 6 8.5 3.3 9	1.5 0.3 0.4	7	16	0.25 0.3 0.07 1.9 0.35 0.5 1 0.7	0.06	50		Yes	No	HZIP-15

Application Diagram

APPLICATION CIRCUIT EXAMPLE



Peripheral parts

Part name	Description	Recommended value	Note
C1	Capacitor for AMP output stabilization	greater than 2.2 μF	
C2,C3,C4,C9,C10	output stabilization capacitor	greater than10 μF(*)	
C6,C8	Power supply bypass capacitor	C6: greater than 100 μF C8: greater than 47 μF	Make sure to implement close to VCC and GND.
C5,C7	Capacitor for oscillation protector	greater than 0.22 μF	
D1,D2	Internal device protection diode	ON Semiconductor SB1003M3	
D3	Reverse current protection diode	ON Semiconductor SB1003M3	
R1,R2	ACC divider resistors		R1>R2
R3	Pull-up resistor	100 kΩ	

(*) Make sure that output capacitors are greater than 10 μF and meets the condition of ESR=0.001 to 10 Ω , in which voltage/temperature dependence and their tolerances are taken into consideration. Moreover, in case of electrolytic capacitor, high-frequency characteristics should be sufficiently good.

Created on: 9/18/2019