AFE Video 2 ADC 14bit 1.8V/3.3V 68-Pin CQFP Tray

Manufacturer:	Texas Instruments, Inc
Package/Case:	CQFP68
Product Type:	Data Conversion ICs
RoHS:	RoHS Compliant/Lead free
Lifecycle:	Active

Images are for reference only

Inquiry

General Description

The TPS746-Q1 is a 1-A, ultra-low-dropout regulator (LDO) with power-good functionality. This device is available in a small 6-pin, 2-mm × 2-mm WSON package and a small 8-pin, 3-mm × 3-mm VSON package with wettable flanks to facilitate optical inspection. The TPS746-Q1 consumes low quiescent current and provides fast line and load transient performance.

The TPS746-Q1 is a flexible device for post-regulation by supporting an input voltage range from 1.5 V to 6.0 V and an externally adjustable output range of 0.55 V to 5.5 V. The device also features fixed output voltages for powering common voltage rails.

The TPS746-Q1 has a power-good (PG) output that monitors the voltage at the feedback pin to indicate the status of the output voltage. The EN input and PG output can be used for sequencing multiple power supplies in the system.

The TPS746-Q1 is stable with small ceramic output capacitors, allowing for a small overall solution size. A precision band-gap and error amplifier provides high accuracy of ±0.85% (max) at 25°C and ±1.5% (max) over temperature. This device includes integrated thermal shutdown, current limit, and undervoltage lockout (UVLO) features. The TPS746-Q1 has an internal foldback current limit that helps reduce the thermal dissipation during short-circuit events.

Key Features

AEC-Q100 qualified for automotive applications:
Temperature grade 1: –40°C to +125°C, T_A

Device operating junction temperature range:
–40°C to +150°C

Package:
2-mm × 2-mm wettable flank WSON

3-mm × 3-mm wettable flank VSON

Input voltage range: 1.5 V to 6.0 V

Output voltage range:
Fixed option: 0.65 V to 5.0 V

Adjustable option: 0.55 V to 5.5 V

High PSRR: 38 dB at 100 kHz

Output accuracy: ±0.85% typical, ±1.5% maximum

Power-good output options:
Open-drain or push-pull

Ultra-low dropout:
265 mV (max) at 1 A (3.3 V_{OUT})

Stable with a 1-µF or larger capacitor

Low I_Q: 25 µA (typical)

Active output discharge

Functional Safety-Capable
Documentation available to aid functional safety system design

Low thermal resistance:
DRV (6-pin WSON), $R_{\theta JA}$ = 80.3°C/W

DRB (8-pin VSON), $R_{\theta JA}$ = 55.5°C/W

Recommended For You

LM2907N	LM2917M	LM2907M-8
Texas Instruments, Inc	Texas Instruments, Inc	Texas Instruments, Inc
DIP14	SOP14	SOP-8

LM2917N-8	LM2907MX-8	LM231AN
Texas Instruments, Inc	Texas Instruments, Inc	Texas Instruments, Inc
DIP8	SOP8	DIP8

LM2917N

Texas Instruments, Inc

DIP14

LM231AN/NOPB

Texas Instruments, Inc

DIP8

LM2907MX-8/NOPB

Texas Instruments, Inc

SOP8

LM331H

Texas Instruments, Inc

CAN8

LM131AH/883

Texas Instruments, Inc

CAN8

LM231N/NOPB

Texas Instruments, Inc

DIP-8

LM98620VHB/NOPB

Texas Instruments, Inc

QFP80

LM231H

Texas Instruments, Inc

CAN8

LM2907N-8

Texas Instruments, Inc

DIP8