

2 μ A I_Q, 300mA Low Dropout Linear Regulator

General Description

The PS8501 is a low dropout (LDO) voltage regulator with features ultra-low quiescent current, high PSRR, and low dropout voltage. PS8501 is suited for battery power equipment, portable communication equipment like smart phone and cameras device owing PS8501 is features ultra-low quiescent at no load about less than 1.5 μ A.

The PS8501 provided operating input voltage from 1.2V to 5.5V and output current up to 300mA. It also features $\pm 2\%$ output voltage tolerance over the entire output current, input voltage, and temperature range. Furthermore, PS8501 retains all of the features that are common to low dropout regulators including a low dropout PMOS pass device, short circuit protection, and thermal shutdown. The PS8501 provides optional two types of packages such as SOT-235 and ZQFN-4L-1X1.

Ordering Information

PS8501/J-□□□□

Package type

- S2 : SOT-23-5
- QZ : ZQFN-4L 1x1 (Z-Type)

Output Voltage

08	:	0.8V
	:	
20	:	2.0V
	:	
33	:	3.3V

Pin Function

- PS8501 : Without SNS Pin
- PS8501J : With SNS Pin*

Note :

*Available for output target adjustment (Ex : PS8501J-08S2 with 0.8V reference level for output target adjustment)

Feature

- Ultra-Low Quiescent Current ($I_Q = 1.5\mu A$)
- Dropout Voltage
 - V_{DO} : 0.15V at 300mA when $V_{OUT} \geq 3.0V$
 - V_{DO} : 0.18V at 300mA when $3.0V > V_{OUT} \geq 2.5V$
 - V_{DO} : 0.21V at 300mA when $2.5V > V_{OUT} \geq 2.1V$
 - V_{DO} : 0.24V at 300mA when $2.1V > V_{OUT} \geq 1.8V$
 - V_{DO} : 0.30V at 300mA when $1.8V > V_{OUT} \geq 1.5V$
 - V_{DO} : 0.40V at 300mA when $1.5V > V_{OUT} \geq 1.2V$
 - V_{DO} : 0.70V at 300mA when $1.2V > V_{OUT} \geq 0.8V$
- 75dB High PSRR at 1kHz
- Output Voltage Tolerances of $\pm 2\%$
- Adjust Output Voltage and Fix Voltage Available
- Independent Enable Control
- Internal Thermal Overload Protection
- Internal Short-Circuit Current Limit
- Ceramic Capacitor Stable
- TSOT-235 and ZQFN-4L-1X1 Packages Available

Applications

- Portable, Battery Powered Equipment
- Ultra-Low Power Microcontrollers
- Notebook Computers

Green Product (RoHS compliant)

To meet the world-wide customer requirements for environmentally friendly products and to be compliant with government regulations the device is available as a green product. Green products are RoHS-Compliant (i.e Pb-free finish on leads and suitable for Pb-free soldering according to IPC/JEDEC J-STD-020).