

2 μ A I_Q, 600mA Low Dropout Linear Regulator

General Description

The PS8502 is a low dropout (LDO) voltage regulator with features ultra-low quiescent current, high PSRR, and low dropout voltage. With less than 1.5 μ A quiescent current at no load, the PS8502 is ideally suited for standby micro-control-unit systems, especially portable equipment like smart phone, cameras, and other battery-operated systems. The PS8502 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 PS8502 operating input voltage from 1.2V to 5.5V, operating output current up to 600mA, -40°C to 125°C operating temperature range, and $\pm 2\%$ output voltage tolerance over the entire output current, input voltage, and temperature range. The PS8502 provides optional two types of packages such as SOT-235 and ZQFN-4L-1X1.

Feature

- Ultra-Low Quiescent Current (I_Q = 1.5 μ A)
- Dropout Voltage
 - V_{DO}: 0.31V at 600mA when V_{OUT} \geq 3.0V
 - V_{DO}: 0.36V at 600mA when 3.0V > V_{OUT} \geq 2.5V
 - V_{DO}: 0.41V at 600mA when 2.5V > V_{OUT} \geq 2.1V
 - V_{DO}: 0.57V at 600mA when 2.1V > V_{OUT} \geq 1.8V
 - V_{DO}: 0.71V at 600mA when 1.8V > V_{OUT} \geq 1.5V
 - V_{DO}: 0.80V at 600mA when 1.5V > V_{OUT} \geq 1.2V
 - V_{DO}: 1.05V at 600mA 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

Ordering Information

PS8502/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

- PS8502 : Without SNS Pin
- PS8502J : With SNS Pin*

Note :

*Available for output target adjustment (Ex : PS8502J-08S2 with 0.8V reference level for output target adjustment)

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).