

LDO ICs

## Low Noise, Low Voltage, High PSRR Low-Dropout 300mA Linear Regulator



### AS9103

#### ● General Description

The AS9103 is a CMOS low dropout, low noise, high PSRR, low quiescent current positive linear regulator with input voltage down to about 1.20V. The AS9103 can deliver a guaranteed 300mA load current with a low dropout voltage at 250mV that optimized for battery-powered systems or portable wireless devices such as mobile phones. The shutdown function can provide remote control for the external signal to decide the on/off state of AS9103 that consumes less than 0.1uA during shutdown mode.

The device is suitable for portable application such as cellular handsets or PDA. The AS9103 is designed and optimized to work with low cost ceramic capacitors 1.0uF, which consumes less than 0.1uA during shutdown mode. Besides, its current limit protection and on-chip thermal shutdown function provide protection against any combination of over-load or ambient temperature which could cause junction temperature exceeding maximum rating. The AS9103 includes a reference bypass pin in order to reduce output noise and a logic control shut-down input.

The space-saving tiny SOT23-5L and DFN1010-4L packages are attractive for hand-held applications. The device is specified over an ambient temperature range of -40°C to 125°C.

#### ● Features

- Output Current Up to 300mA
- Low Voltage  $V_{IN}$  Range: 1.20V to 5.5V
- Very Low Input Voltage at 1.20V (Min.)
- Very Low Quiescent Current at 20uA
- Low Dropout voltage of 250mV at 300mA
- Output Voltage Accuracy at  $\pm 2.0\%$
- PSRR 75dB at 1.0KHz
- Needs Only 1.0uF Capacitor for Stability
- Current Limit Protection
- Current Fold-back Protection
- Less than 1uA Shutdown Current
- Without EMI and Switch Noise
- Low ESR Ceramic Capacitor for Output Stability
- RoHS and Green Compliant
- DFN1010-4L and SOT23-5L Packages
- -40°C to +125°C Temperature Range

#### ● Applications

- PDAs and Digital Camera
- White LED Biasing
- Mobil Handsets
- Tablet PCs and Laptops/Netbooks
- Camcorder Video Light (Movie Light)

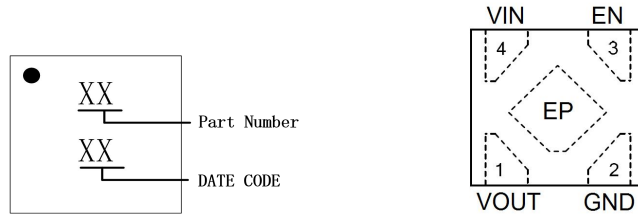
#### ● Ordering Information



Part Number	Driver Capability	Package Type	Package Qty	Temperature	Eco Plan
AS9103-XXDRN	300mA	DFN1010-4L	7-in reel 10000pcs/reel	-40~85°C	RoHS
AS9103-XXSTRN	300mA	SOT23-5L	7-in reel 3000pcs/reel	-40~85°C	RoHS
AS9103-XXDRY	300mA	DFN1010-4L	7-in reel 10000pcs/reel	-40~125°C	RoHS
AS9103-XXSTRY	300mA	SOT23-5L	7-in reel 3000pcs/reel	-40~125°C	RoHS

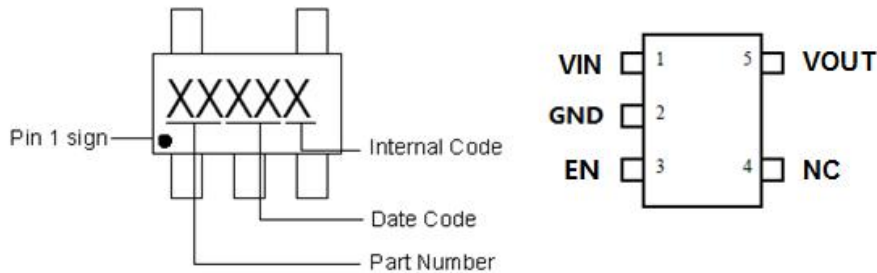
● **Marking Information & Pin Assignment**

**DFN1010-4L**



Pin Name	Pin No.	I/O	Pin Function
	DFN1010-4L		
VOUT	1	O	Output Pin
GND	2	P	Ground
EN	3	I	Pull this pin high to enable IC, pull this pin low to shutdown IC. Floating this pin will shutdown due to the built-in pull low resistor.
VIN	4	P	Input Power Supply
EP	-	-	Please Connected to GND.

**SOT23-5L**



Pin Name	Pin No.	I/O	Pin Function
	TSOT23-5L		
VIN	1	P	Input Power Supply
GND	2	P	Ground
EN	3	I	Pull this pin high to enable IC, pull this pin low to shutdown IC. Floating this pin will shutdown due to the built-in pull low resistor.
NC	4	-	Not Connected.
VOUT	5	O	Output Pin

● **Typical Application Circuit**

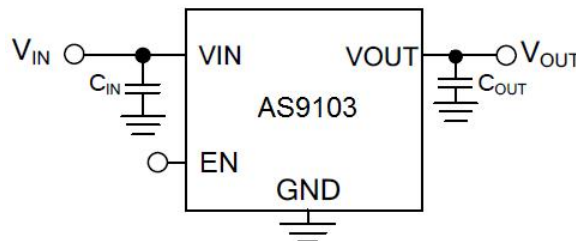
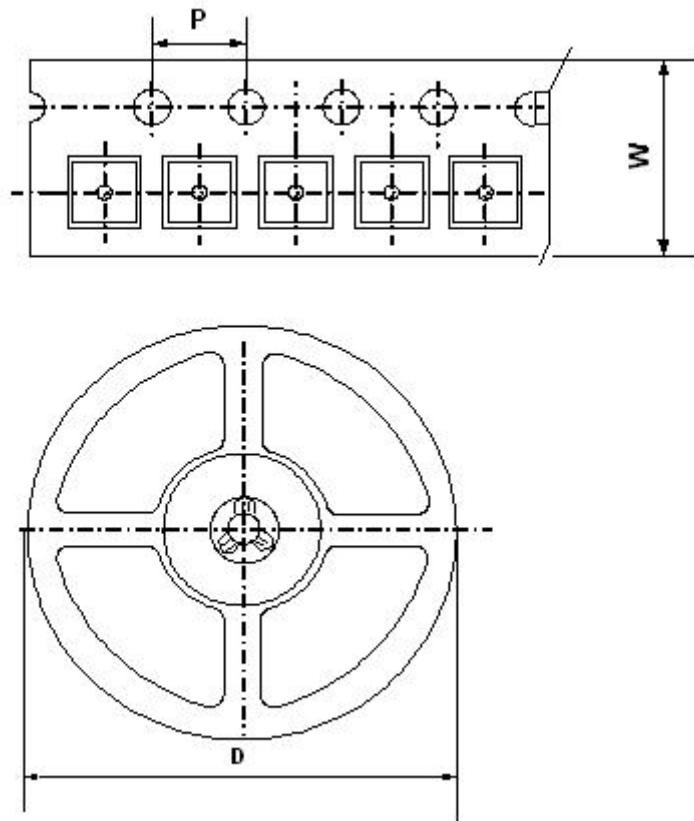


Figure 1, Typical Application Circuit of AS9103

Note: To prevent oscillation, it is recommended to use 1μF X7R or X5R dielectric capacitors if ceramics are used as input/output capacitors (please refer to application information).

■ Packing Information



Package Type	Carrier Width(W)	Pitch(P)	Reel Size(D)	Packing Minimum
DFN1010-4L	8.0±0.1 mm	2.0±0.1 mm	180±1 mm	10000pcs
SOT23-5L	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	3000pcs

Note: Carrier Tape Dimension, Reel Size and Packing Minimum