GENERAL DESCRIPTION

The HL6219A is a low-dropout voltage regulator designed for portable and wireless applications that require high PSRR, low quiescent current and excellent line and load transient response. The HL6219A is designed to work with small 1μF input and output ceramic capacitors. Its quiescent current is as low as 45uA. With its better than 70dB PSRR at 1kHz, the HL6219A's performance is ideal for battery powered systems for delivering low dropout voltage and low quiescent current.

The device can be used for mobile phones and similar battery powered wireless applications. It provides up to 300mA, from a 2.0V to 7.0V input. The HL6219A consumes less than 0.1μA in shutdown mode. The HL6219A is available in 5 pin SOT23 and SOT89 packages. The output standards of 1.2V, 1.3V, 1.5V, 1.8V, 2.0V, 2.5V, 2.7V, 2.8V, 3.0V, and 3.3V are available.

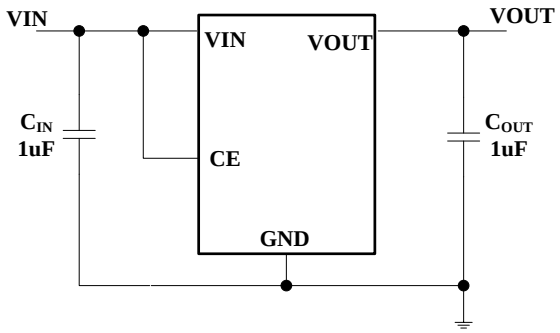
FEATURES

- 2.0V to 6.0V input range
- 300mA guaranteed output current
- High PSRR: 60dB at 1KHz
- Low quiescent current: 45uA (Typ.)
- < 1uA current at shutdown mode
- 180mV maximum low dropout voltage with 100mA load
- -40°C to +85°C junction temperature for operation

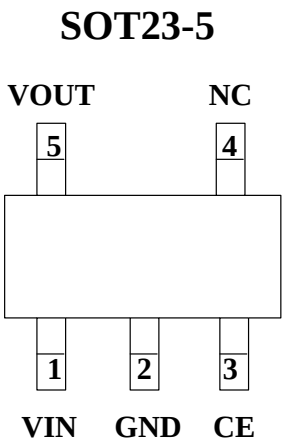
APPLICATIONS

- CDMA/GSM mobile phone
- PDAs/MP3
- WLAN and bluetooth appliances
- Cordless telephones
- Battery powered portable devices

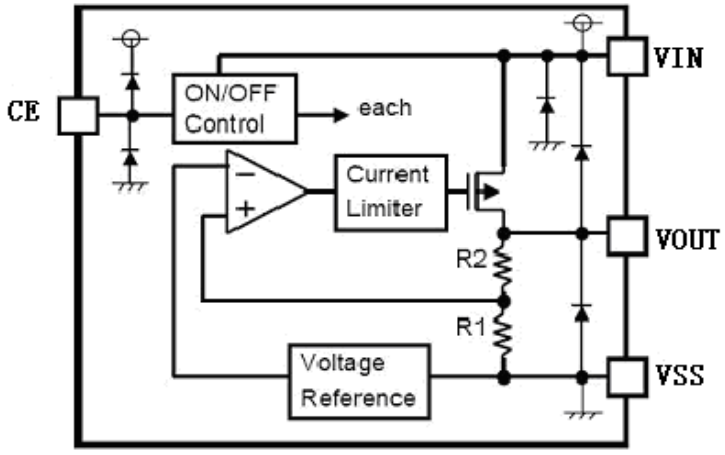
TYPICAL APPLICATIONS



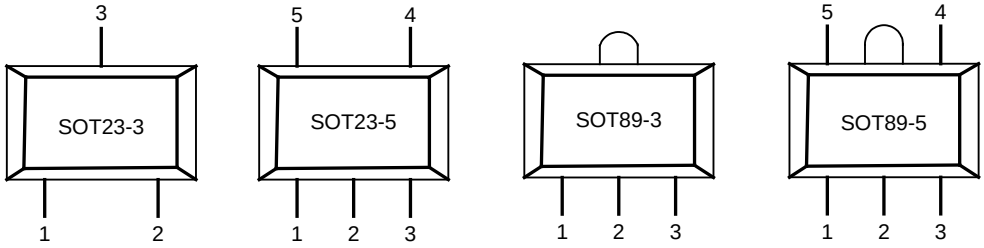
PIN ASSIGNMENT



BLOCK DIAGRAM



PIN ASSIGNMENT



PIN DESCRIPTION

HL6219A

PIN NUMBER		PIN NAME	FUNCTION
SOT23-5	SOT89-5		
1	4	Vin	INPUT
2	2	Vss	GROUND
3	3	Vce	ON/OFF CONTROL
4	1	NC	NO CONNECTION
5	5	Vout	OUTPUT

ABSOLUTE MAXIMUM RATINGS

PARAMETER		SYMBOL	RATING	UNITS
INPUT VOLTAGE		V_{IN}	6	V
OUTPUT CURRENT		I_{out}	500	mA
OUTPUT VOLTAGE		V_{out}	Vss-0.3 ~ Vout+0.3	V
POWER DISSIPATION	SOT23	Pd	300	mW
	SOT89	Pd	500	mW
OPERATING TEMP.		T_{Opr}	-25 ~ +85	℃
STORAGE TEMP.		T_{stg}	-40 ~ +125	℃
LEAD TEMP.		T_{solder}	260℃, 10s	

ELECTRICAL CHARACTERISTICS

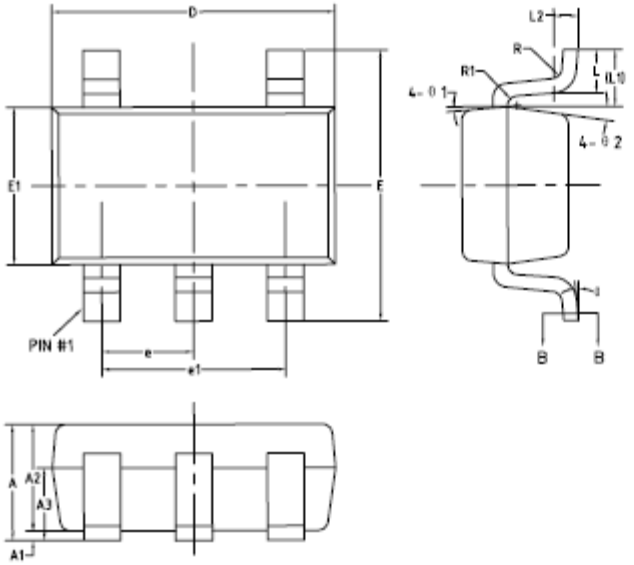
HL6219A

(Vin=Vout+1V,Cin=Cout=1u,Ta=25^{0}C)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Output Voltage	V_{OUT}(E) (	I_{OUT}=40mA, V_{IN}=Vout+1V	X 0.98	V_{OUT} (T) (Note 1)	X 1.02	V
Input Voltage	V_{IN}				6.0	V
Max. Output Current	I_{OUT}max	V_{IN}=Vout+1V	300			mA
Load Regulation	ΔV_{OUT}	V_{IN}=Vout+1V, 1mA≤I_{OUT}≤100mA		30		mV
Dropout Voltage (Note 3)	V_{dif1}	I_{OUT} =100mA		200		mV
	V_{dif2}	I_{OUT} =200mA		400		mV
Supply Current	I_{SS}	V_{IN}=Vout+1V		5		μA
Standby Current	I_{CEL}	Vce＝0V		0.1		μA
Line Regulation	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \bullet V_{OUT}}$	I_{OUT} =40mA Vout+1V ≤V_{IN}≤8V		0.05		%/V
Output Noise	en	I_{OUT} =40mA， 300Hz~50kHz		50		uVrms
Ripple Rejection Rate	PSRR	Vin= [Vout+1]V +1Vp-pAC I_{OUT} =40mA,f=1kHz		60		dB

NOTE
(NOTE 1) VOUT(T)=Specified Output Voltage
(NOTE 2) VOUT(E)=Effective Output Voltage
(I.e. the output voltage when "VOUT(T)+1.0V" is provided at the VIN pin while maintaining a certain IOUT value).
(NOTE 3) Vdif={VIN1(NOTE5)-VOUT1(NOTE4)}
(NOTE 4) VOUT1=A voltage equal to 98% of the Output Voltage whenever an amply stabilized IOUT {VOUT(T)+1.0V} is input.
(NOTE 5) VIN1=The Input Voltage when VOUT1 appears as Input Voltage is gradually decreased.
(NOTE 6) Unless otherwise stated, VIN=VOUT(T)+1.0V

PACKAGE INFORMATION



Symbol	Millimeters		
	Min	Typ	Max
A	-	-	1.25
A1	0	-	0.15
A2	1.00	1.10	1.20
A3	0.60	0.65	0.70
b	0.36	-	0.50
b1	0.36	0.38	0.45
c	0.14	-	0.20
c1	0.14	0.15	0.16
D	2.826	2.926	3.026
E	2.60	2.80	3.00
E1	1.526	1.626	1.726
e	0.95BSC		
e1	1.90BSC		
L	0.35	0.45	0.60
L1	0.59REF		
L2	0.25BSC		
R	0.10	-	-
R1	0.10	-	0.25
θ	0°	-	8°
θ1	3°	5°	7°
θ2	6°	8°	10°