

300mA LDO Vout NO Fast Discharge Function

● Features

- Maximum output current: 300mA @ $V_{IN}-V_{OUT}=1V$
- PSRR: 75dB @1KHz
- Dropout voltage: 55mV @ $I_{OUT}=50mA$ when $V_{OUT}=3.3V$
- Quiescent current : 3 μ A Typ.
- Shut-down current: < 0.5 μ A
- Recommend capacitor: 1 μ F

● Applications

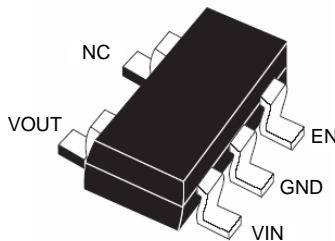
- Battery powered equipment
- Reference voltage sources
- Cameras, Video cameras
- Portable AV systems
- Mobile phones
- Communication tools

● General Description

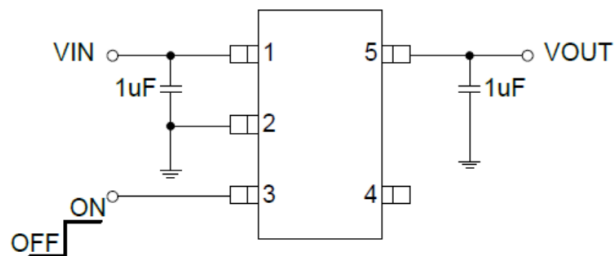
The FS3306 series are CMOS precise, low power consumption, high voltage; positive voltage regulators designed for portable applications with low quiescent current (5 μ A) and dropout voltage (55mV at 50mA).

The FS3306 have typical current limit of 300mA and are available in high accuracy (2%), The output voltages are 1.2V、 1.5V、 1.8V、 2.0V、 2.5V、 3.0V、 3.3V. These products feature thermal shutdown protection and current limit with fold-back in short circuit. SOT23-5L packages are available.

● Pin Configurations (SOT23-5L)



● Typical Application Circuit



● Absolute Maximum Ratings

Parameter	Symbol	Ratings	Unit
IN Supply Voltage	V_{IN}	-0.3 TO 8	V
OUT Voltage	V_{OUT}	-0.3V to $V_{IN}+0.3$	V
EN Voltage		-0.3V to 8	V
Continuous OUT Current	I_{MAX}	Internally limited	
Power Dissipation ($T_{AMB} = 25^{\circ}C$)	P_D	300	mW
Operating Temperature	T_{OPR}	-25 to +85	$^{\circ}C$
Storage Temperature Range	T_{STG}	-40 to +125	$^{\circ}C$

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● Ordering Information

FS3306-①②③④

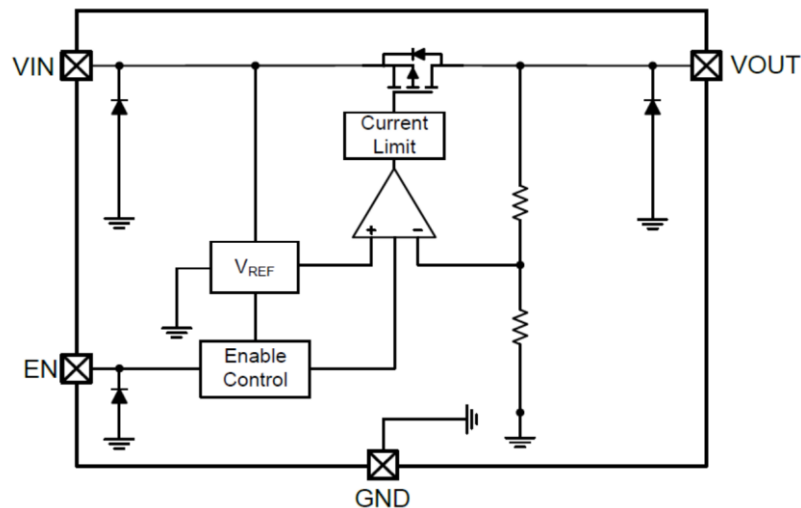
DESIGNATOR	SYMBOL	DESCRIPTION
①②	Output Detection Voltage	...12=1.2V 15=1.5V, 18=1.8V, 28=2.8V, 30=3.0V, 33=3.3V...
③④	Package Type:	SK: SOT23-5L

● Electrical Characteristics

$V_{IN} = V_{OUT} + 1V$, $V_{EN} = V_{IN}$, $C_{IN} = C_{OUT} = 1\mu F$, $T_J = 25^\circ C$ unless otherwise specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Operating Voltage	V_{IN}		2.5		5.5	V
Output Voltage Accuracy	ΔV_{OUT}		-2	0	2	%
Line Regulation		$V_{IN} = V_{OUT} + 1V$ to 8V		6		mV
Load Regulation		$I_{OUT} = 1mA$ to 100 mA		20		mV
Power Supply Rejection Ratio	PSRR	$V_{IN} = 5V_{DC} + 0.5V_{p,p}$ F=1KHz, $I_{OUT} = 30mA$		75		dB
		$V_{IN} = 5V_{DC} + 0.5V_{p,p}$ F=1MHz, $I_{OUT} = 30mA$		47		
Supply Current	I_Q	EN = 1.4V		3	5	μA
		EN = 0.4V		0.6	1	
Dropout Voltage	V_{DO}	$V_{OUT} \geq 2.5V$, $I_{OUT} = 50mA$		55		mV
Current Limit	I_{LIM}			480		mA
Current Limit Short Circuit	I_{LIMSC}	$V_{EN} = V_{IN}$, V_{OUT} Short to GND with 1Ω		100		mA
Output Noise	e_n	$C_{OUT} = 1\mu F$, $I_{OUT} = 40mA$, F = 300Hz to 50KHz		50		μV_{RMS}
EN Input Logic Low Threshold	V_{IL}	$V_{IN} = 5.5V$, $V_{OUT} = 0V$			0.4	V
EN Input Logic High Threshold	V_{IH}	$V_{IN} = 5.5V$, $I_{OUT} = 1mA$	1.5			V
EN Input Current		$V_{EN} = 0$ to 5.5V		0	0.5	μA

● Typical Block Diagram

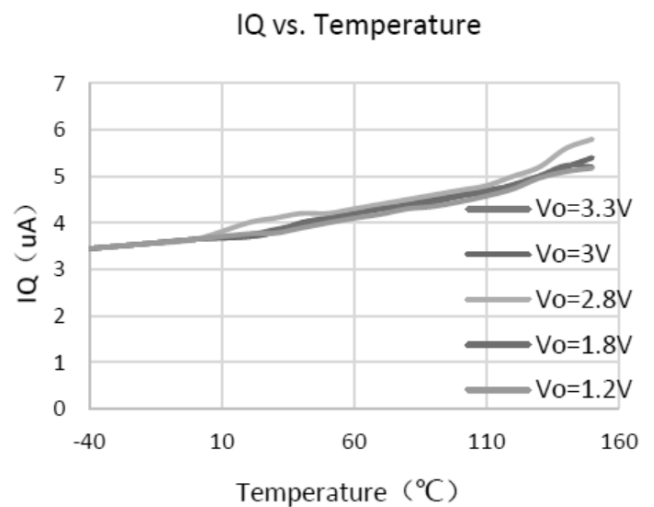
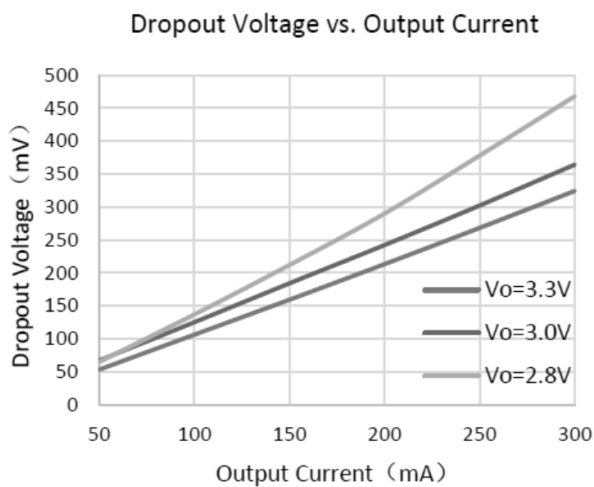
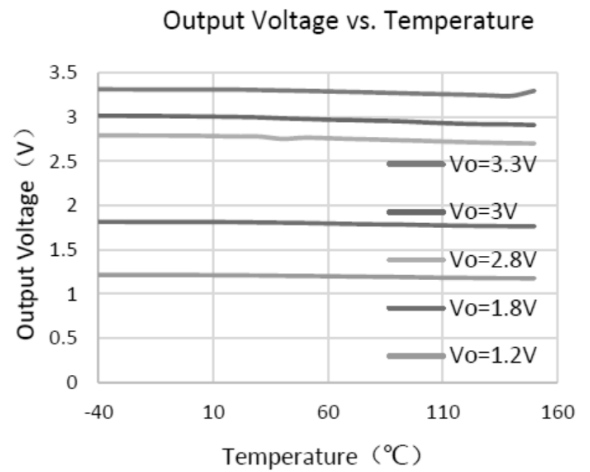
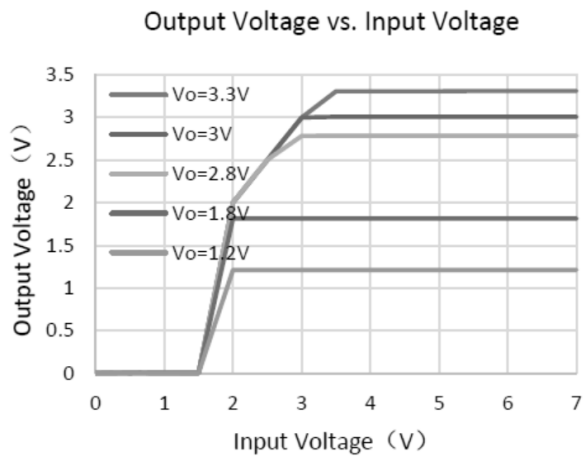


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- **Pin Description**

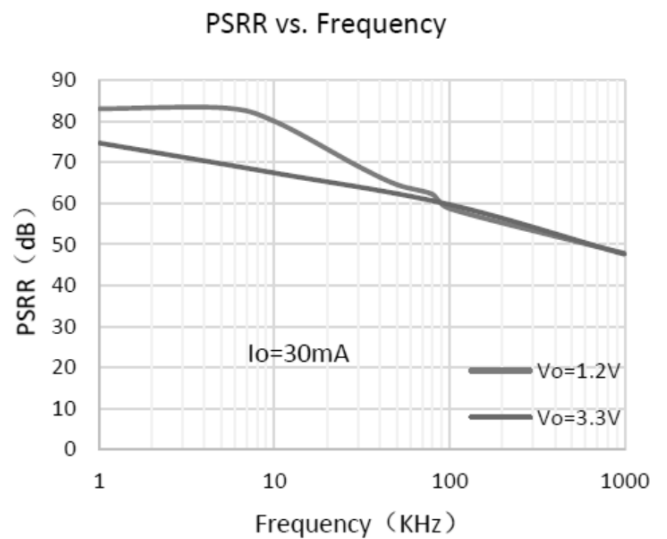
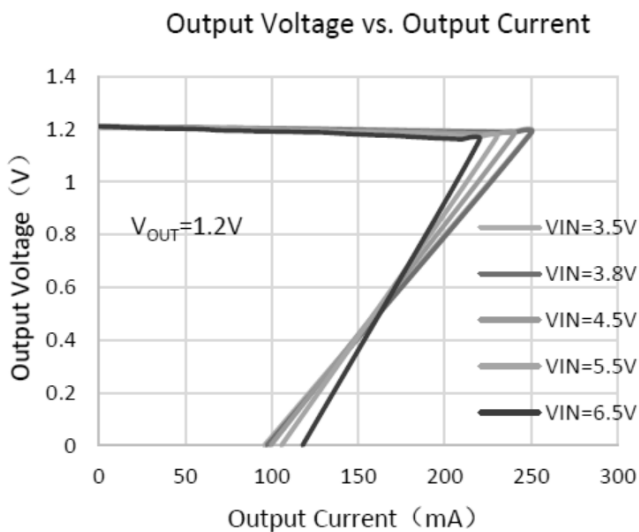
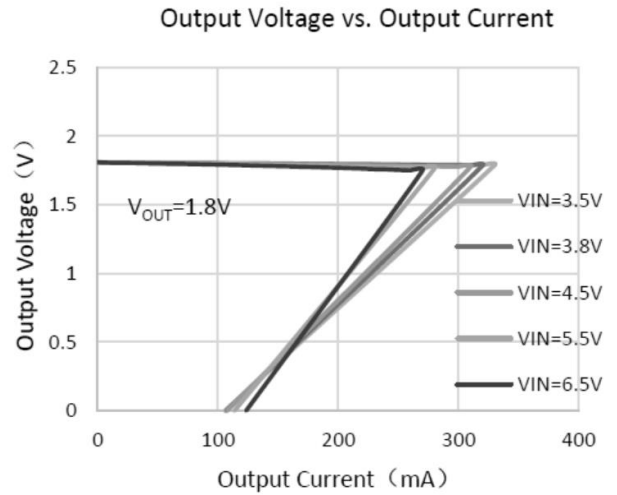
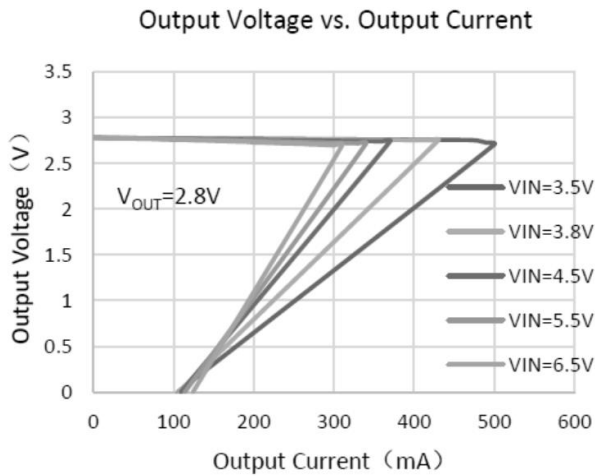
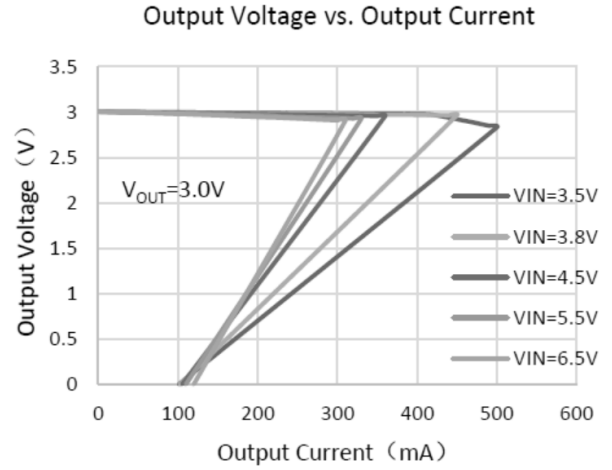
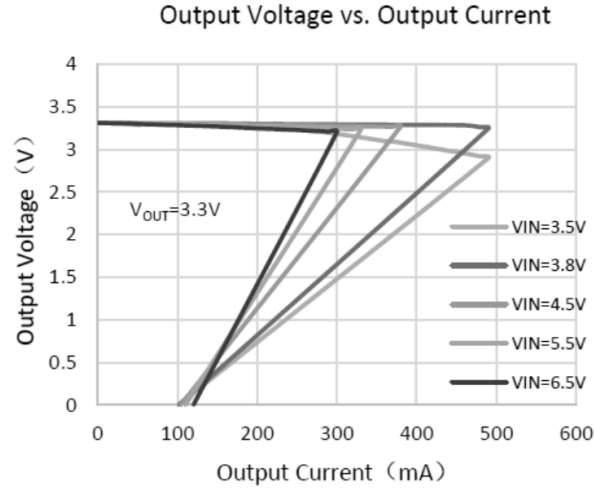
Pin No.	Pin Name	Pin Function
1	IN	Input positive power pin of FS3306.
2	GND	Ground
3	EN	Enable Input. High level enables the LDO. Connect this pin to IN if not used; do not leave EN unconnected.
4	NC	Not use
5	OUT	Output pin.

- **Typical Performance Characteristics**



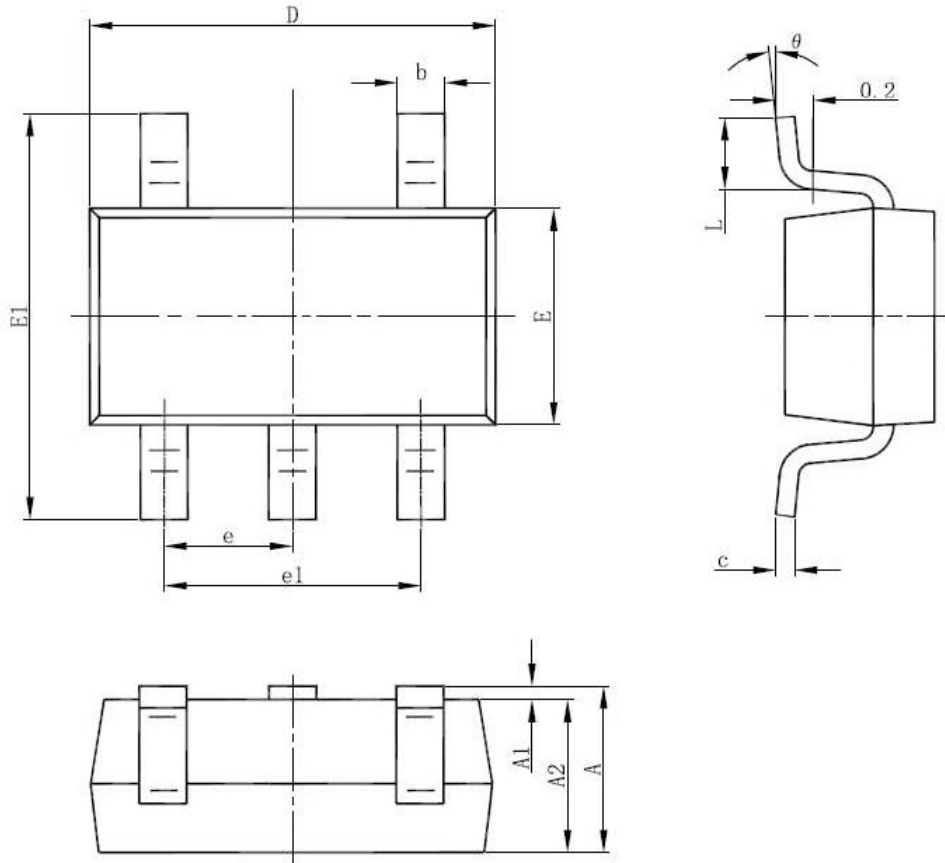
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● Typical Performance Characteristics



- Package Information

SOT-23-5L PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°