



General Description

ME6206AxxM3G series are a highly precise, lower consumption, 3 terminal, positive voltage regulators manufactured using CMOS and laser trimming technologies. The series provides large currents with a significantly small dropout voltage.

The ME6206AxxM3G consists of a current limiter circuit, a driver transistor, a precision reference voltage and an error correction circuit. The series is compatible with low ESR ceramic capacitors. The current limiters fold back circuit operates as a short circuit protection as well as the output current limiter for the output pin. Output voltages are internally by laser trimming technologies. It is selectable in 0.1V increments within a range of 1.2V to 3.6V. ME6206AxxM3G series are available in SOT-23-3L package.

Features

- Low Power Consumption
- Low Voltage Drop
- Low Temperature Coefficient
- Low Quiescent Current: 1uA at 6V
- Output voltage accuracy: tolerance $\pm 2\%$

Application

- Battery-powered Equipments
- Reference Voltage Sources
- Cameras, video cameras
- Portable AV systems
- Mobile phones
- Portable games

Pin Configuration And Descriptions

SOT-23-3L (Top View)

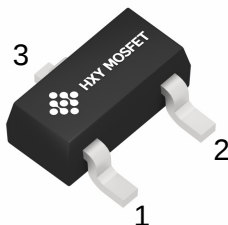


Table1 : ME6206AxxM3G series (SOT-23-3L PKG)

PIN NO.	PIN NAME	FUNCTION
1	GND	GND pin
2	VIN	Input voltage pin
3	VOUT	Output voltage pin

Order Information

Orderable Device	Package	Output Voltage	Packing Option
ME6206AxxM3G	SOT-23-3L	1.2V-3.6V	3000/Reel

xx:From 12-36

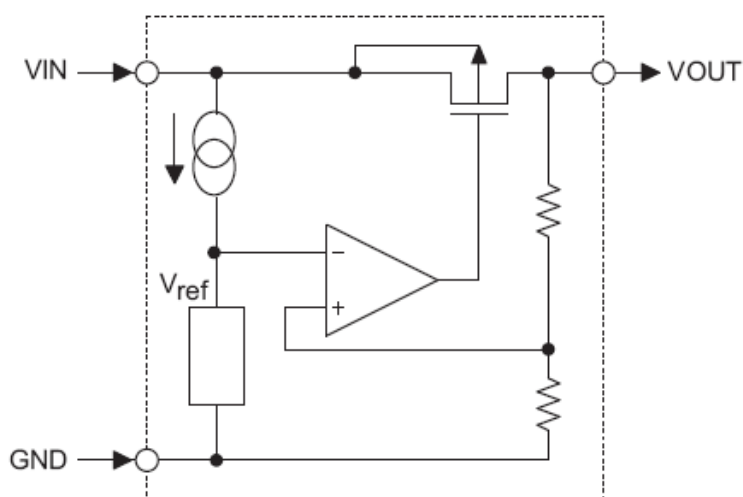


Absolute Maximum Ratings

Description	Symbol	Value Range	Unit
Input Voltage	V_{IN}	8	V
Storage Temperature Range	T_{STG}	-55~+125	°C
Operating Free-air Temperature Range	T_A	-40~+85	°C
Power Dissipation	P_d	0.2	W
Output Current	I_{OUT}	300	mA
Output Voltage	V_{OUT}	$V_{SS} - 0.3 \sim V_{IN} + 0.3$	V

Note: Stresses greater than those listed under “ Absolute Maximum Ratingsmay” cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under “ Recommended Operating Conditions” not implied. Exposure to “ Absolute Maximum Ratings” for extended periods may affect device reliability.

Block Diagram





DC Characteristics (unless otherwise noted $T_A = 25^\circ\text{C}$)

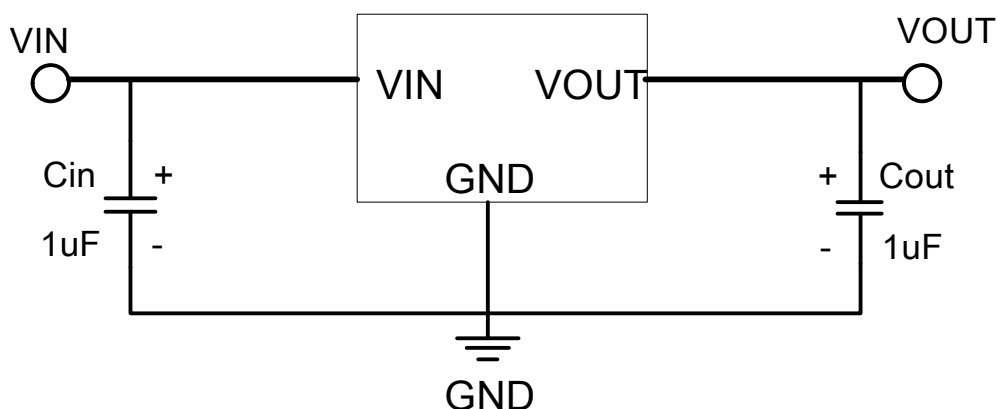
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Output Voltage	V_{out}	$V_{in}=V_{out}+1V$ $1.0mA \leq I_{out} \leq 30mA$	$V_{out} \times 0.98$	--	$V_{out} \times 1.02$	V
Output Current*1	I_{out}	$V_{in}-V_{out}=1V$	--	300	--	mA
Low dropout*2	V_{drop}	Refer to the next table				
Line Regulation	$\frac{\Delta V_{out1}}{\Delta (V_{in}-V_{out})}$	$1.6V \leq V_{in} \leq 6.5V$ $I_{out}=40mA$	--	0.05	0.2	%/V
Load Regulation	$\Delta V_{out} / \Delta I_{out}$	$V_{in}=V_{out}+1V$ $1.0mA \leq I_{out} \leq 80mA$	--	12	30	mV
Output voltage Temperature Coefficiency	$\Delta V_{out} / (T_A \cdot V_{out})$	$I_{out}=30mA$ $0^\circ\text{C} \leq T_A \leq 70^\circ\text{C}$	--	± 75	--	Ppm/ $^\circ\text{C}$
Supply Current	I_{ss}	--	--	1	1.5	μA
Input Voltage	V_{in}	--	--	6	8	V

Electrical Characteristics by Output Voltage:

Output Voltage $V_{out}(V)$	Dropout Voltage V_{dif} (V)		
	Conditions	Typ.	Max.
$V_{out} \leq 1.5V$	$I_{out}=100\text{ mA}$	0.39	0.66
$V_{out}=1.6V$		0.35	0.57
$V_{out}=1.7V$		0.32	0.50
$1.8 \leq V_{out} \leq 2$		0.30	0.45
$2.1 \leq V_{out} \leq 2.7$		0.28	0.42
$2.8 \leq V_{out} \leq 3.6$		0.25	0.35

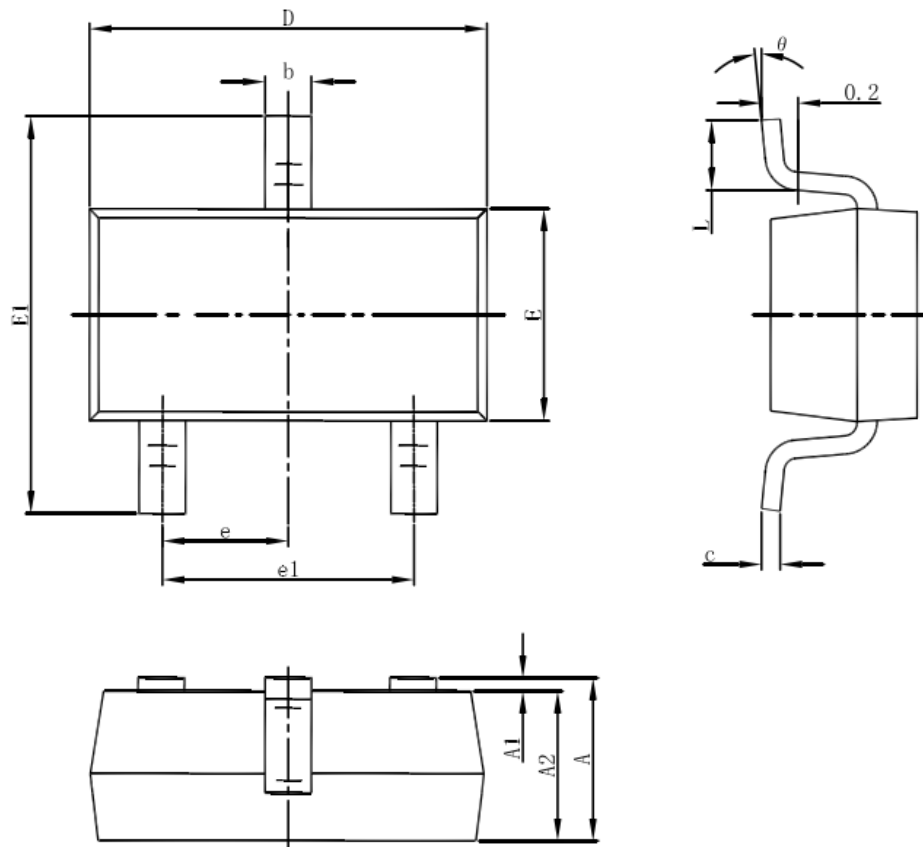
Application Circuit

Basic Circuits





Package Outline Dimensions SOT-23-3L



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°



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