ME6206L Series Low ESR Cap Compatable Positive Voltage Regulators

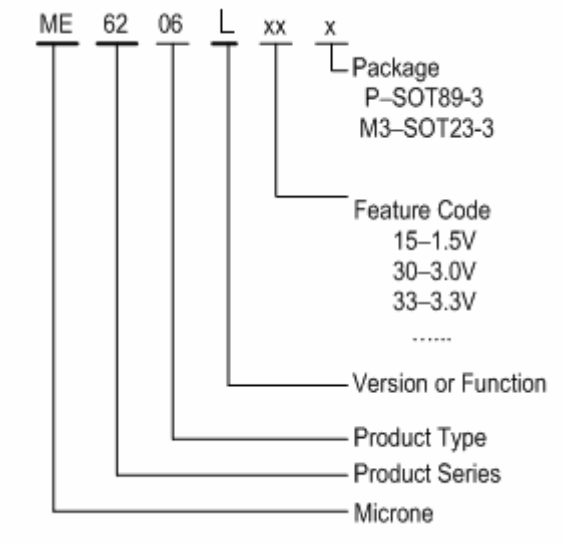
ME6206L series are highly precise, low power consumption, high voltage, positive voltage regulators manufactured using CMOS and laser trimming technologies .The series provides large currents with a significantly small dropout voltage.

The series is compatible with low ESR ceramic capacitors .The current limiter's foldback circuit also operates as a short protect for the output current limiter and the output pin.

FEATURES

- Highly Accurate：±2%；
- Output voltage range：1.5V~5.0V (selectable in 0.1V steps)；
- Low power consumption：Typ. =8.0μA；
- Large output current ： 300mA；
- Input voltage: up to 6 V
- Dropout voltage：
  0.2V at 100mA and 0.40V at 200mA；
- Input Stability
- Be available to regulator and reference voltage；
- Packages：SOT23-3，SOT89-3，SOT23，TO-92

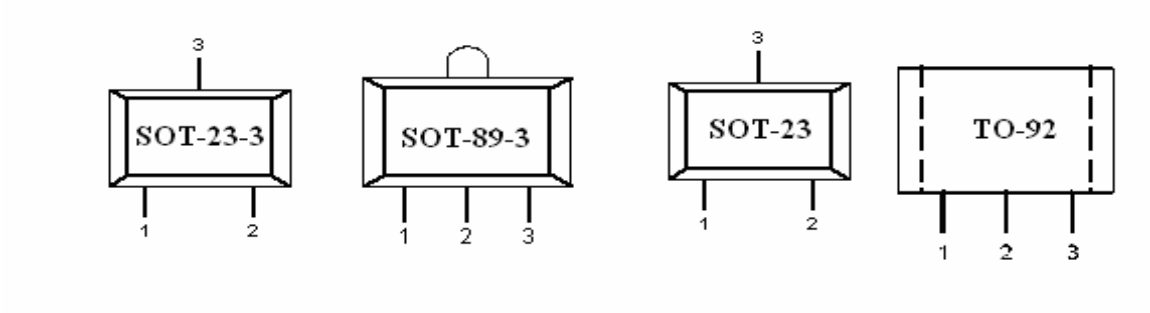
Selection Guide



APPLICATIONS

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

PINCONFIGURATION

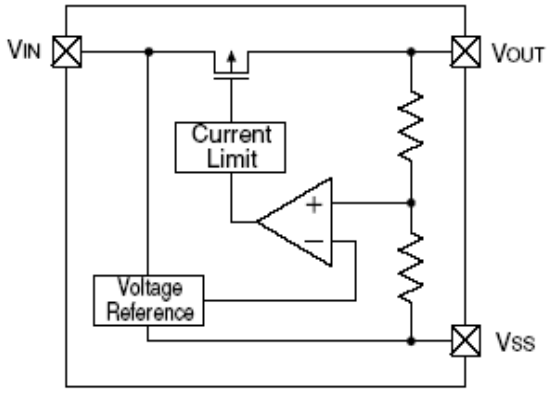


PIN ASSIGNMENT

ME6206Lxx

PIN					NAME	FUNCTION
M3	P	P1	X	T		
SOT23-3	SOT89-3	SOT89-3	SOT23	TO-92		
1	1	2	1	1	Vss	Ground
2	3	1	2	3	Vout	Output
3	2	3	3	2	Vin	input

Block Diagram



Absolute Maximum Ratings

PARAMETER		SYMBOL	DESCRIPTION	UNIT
Input Voltage		V_{IN}	6.5	V
Output Current		I_{out}	500	mA
Output Voltage		V_{out}	Vss-0.3 ~ Vout+0.3	V
Power Dissipation	SOT23-3	Pd	300	mW
	SOT89-3	Pd	500	mW
	SOT23	Pd	300	mW
	TO-92	Pd	500	mW
Operating Ambient Temperature		T_{Opr}	-25 ~ +85	℃
Storage Temperature		T_{stg}	-40 ~ +125	℃

Electrical Characteristics

ME6206L33

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

PARAMETER	SYMBOL	CONDITION	MIX	TYP	MAX	UNIT
Output Voltage	V_{OUT}(E) (Note 2)	I_{OUT}=10mA, V_{IN}=Vout+1V	X 0.98	V_{OUT}(T) (Note 1)	X 1.02	V
Input Voltage	V_{IN}				6	V
Maximum Output Voltage	I_{OUT} (max)	V_{IN}=Vout+1V		300		mA
Load Regulation	ΔV_{OUT}	V_{IN}=Vout+1V 1mA≤I_{OUT}≤100mA		14		mV
Dropout Voltage (Note 3)	V_{dif1}	I_{OUT} =80mA		180		mV
	V_{dif2}	I_{OUT} =200mA		380		mV
Supply Current	I_{SS}	V_{IN}=Vout+1V		9		μA
Line Regulations	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \bullet V_{OUT}}$	I_{OUT} =40mA Vout+1V ≤V_{IN}≤6V		0.03		%/V
Power Supply Ripple Rejection Ratio	PSRR	Vin= [Vout+1]V +1Vp-pAC I_{OUT} =10mA,f=1kHz		50		dB
Short Circuit Current	I_{short}	Vin=Vout(T)+1.5V Vout=Vss		55		mA

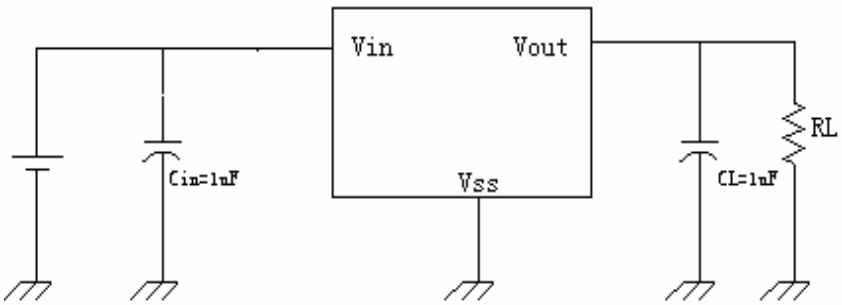
Note :

1. V_{OUT} (T) ： Specified Output Voltage
2. V_{OUT} (E) ： Effective Output Voltage (Ie. The output voltage when "V_{OUT} (T)+1.0V"is provided at the Vin pin while maintaining a certain Iout value.)
3. V_{dif} ： V_{IN1} –V_{OUT} (E)'

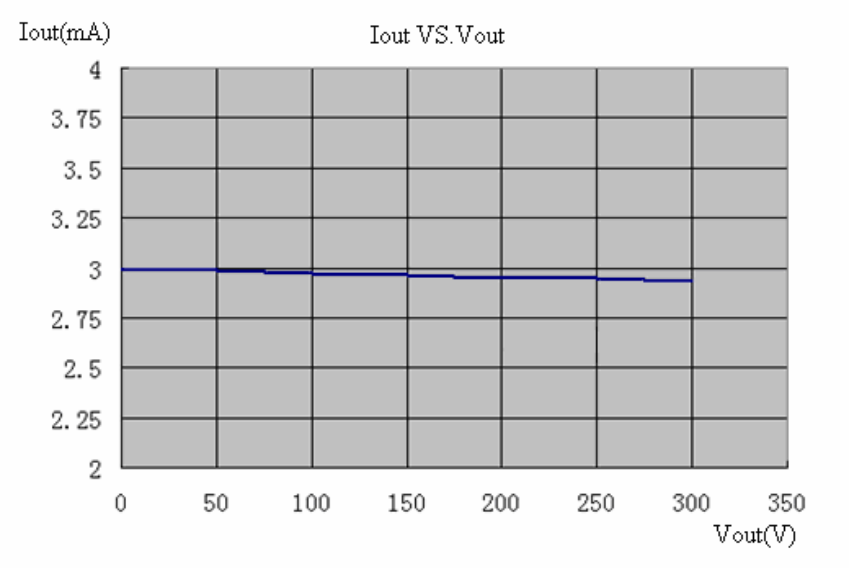
   V_{IN1} ： The input voltage when V_{OUT}(E)' appears as input voltage is gradually decreased.

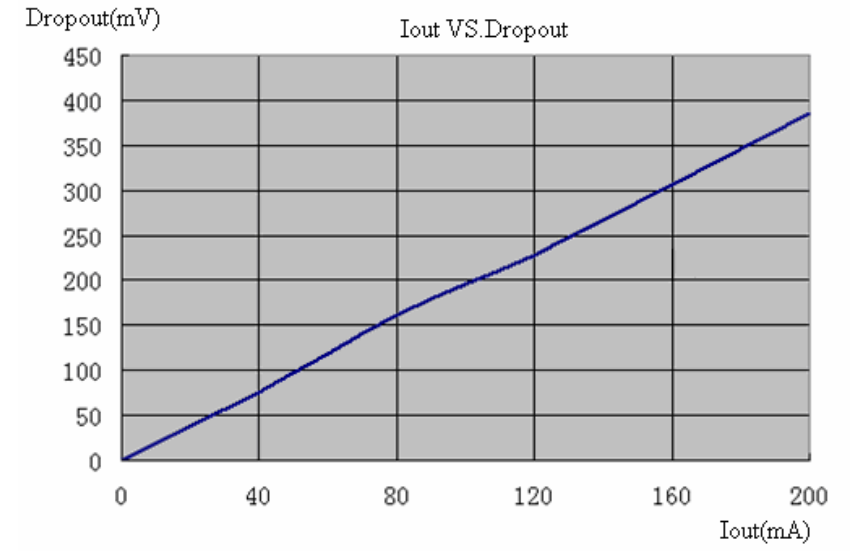
   V_{OUT} (E)'=A voltage equal to 98% of the output voltage whenever an amply stabilized Iout {V_{OUT} (T)+1.0V} is input.

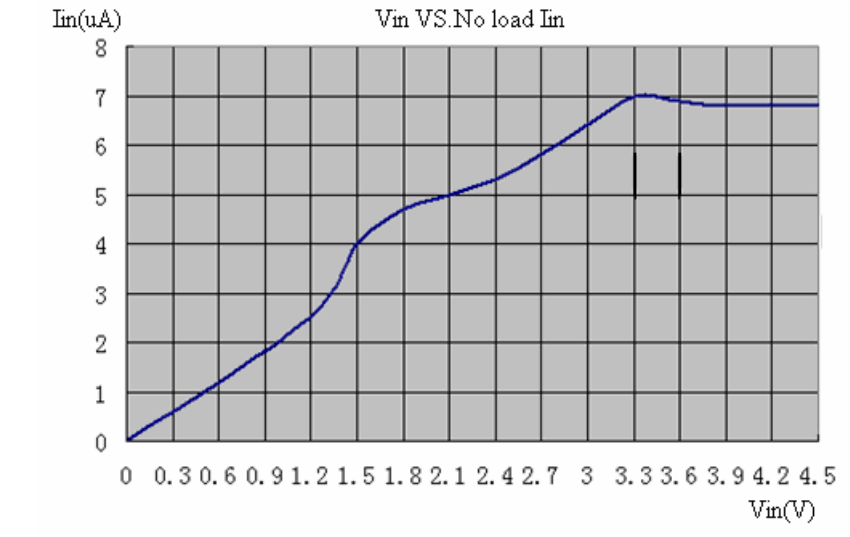
Test Circuits



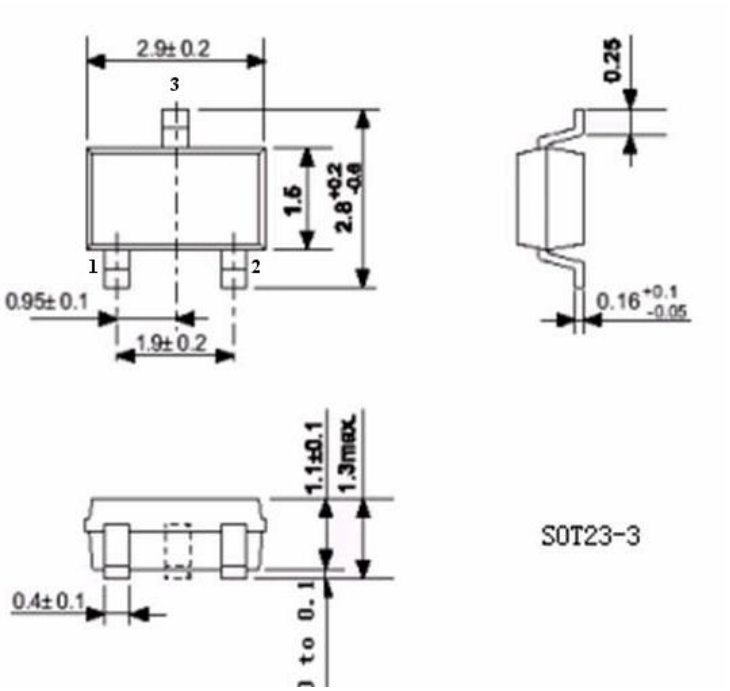
Type Characteristics

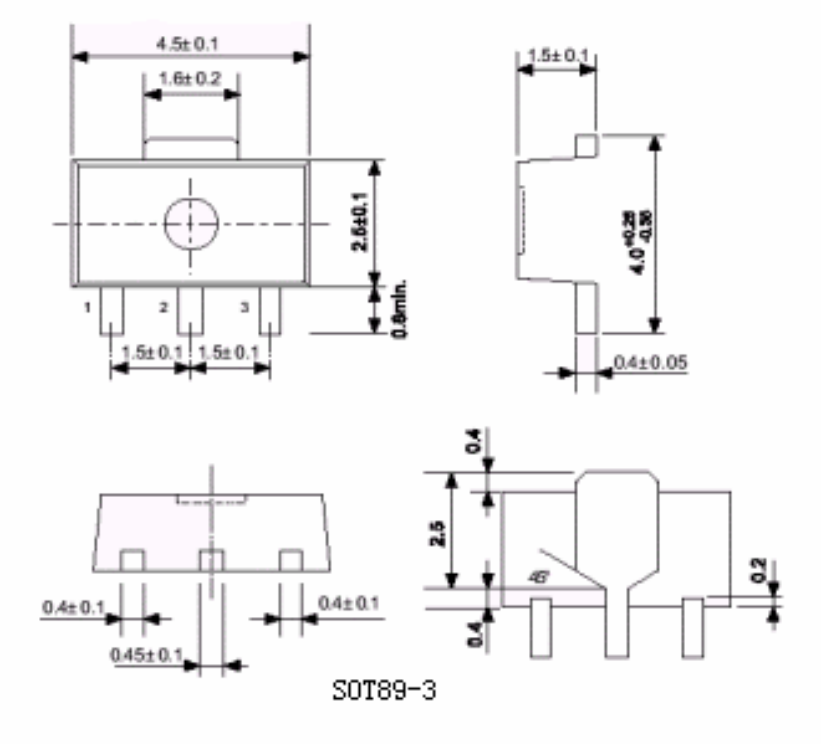


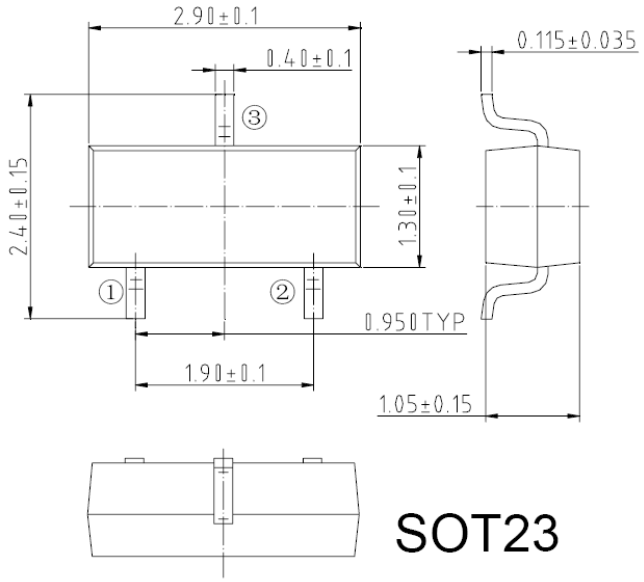


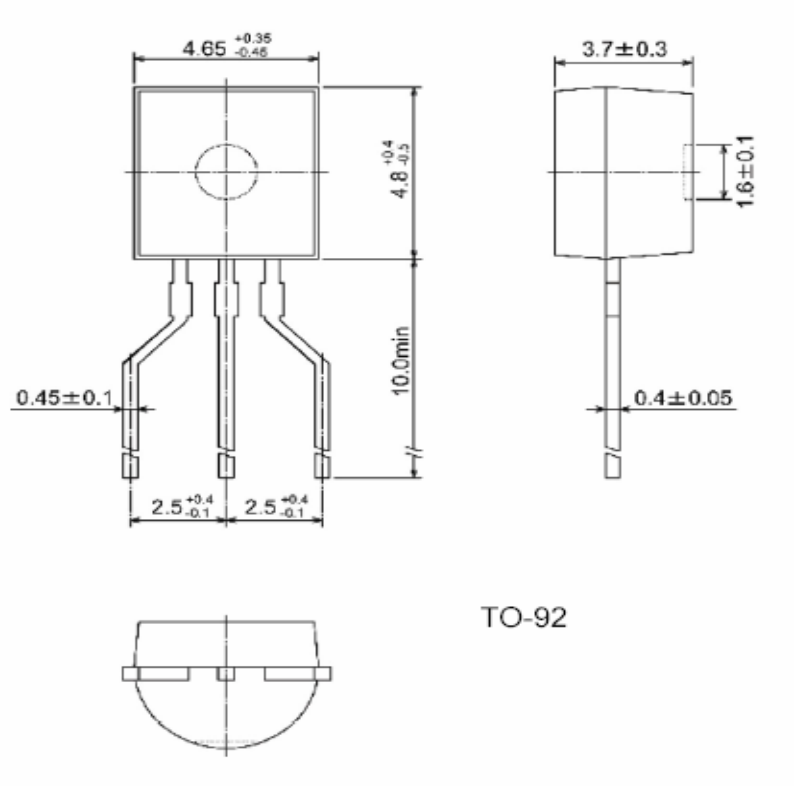


Package


2.9± 0.2
3
1.5
2.8 +0.2 -0.6
1
2
0.95± 0.1
1.9± 0.2
0.25
0.16 +0.1 -0.05
1.1±0.1
1.3max.
0.4± 0.1
0.1 to 0.
SOT23-3


4.5± 0.1
1.6± 0.2
2.6±0.1
0.8min.
1
2
3
1.5± 0.1
1.5± 0.1
1.5± 0.1
4.0 +0.25 -0.50
0.4± 0.05
0.4
2.5
45
0.2
0.4
0.4± 0.1
0.4± 0.1
0.45± 0.1
SOT89-3


2.90±0.1
0.40±0.1
0.115±0.035
2.40±0.15
1.30±0.1
0.95TYP
1.90±0.1
1.05±0.15
SOT23


4.65 +0.35 -0.45
3.7±0.3
4.8 +0.4 -0.5
1.6±0.1
10.0min
0.45±0.1
0.4±0.05
2.5 +0.4 -0.1
2.5 +0.4 -0.1
TO-92

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