



**ME3206 Series**

Ver 01

**ME3206 Series Low ESR Cap Compatible Positive Voltage Regulators**

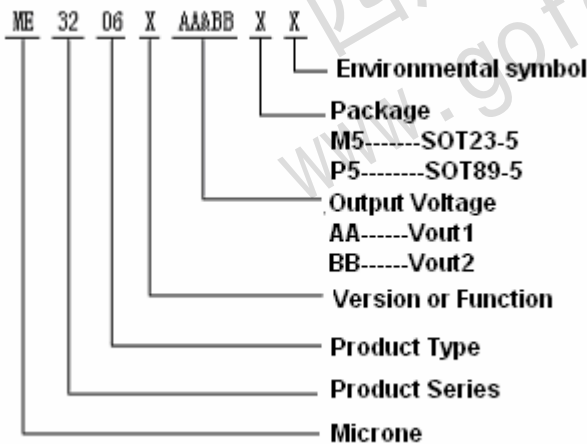
**ME3206 series** are highly precise, low power consumption, high voltage, positive voltage regulators manufactured using CMOS and laser trimming technologies. The series provides large currents with a significantly small dropout voltage.

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:  $\pm 2\%$ ;
- Output voltage range: 1.5V~5.0V (selectable in 0.1V steps);
- Low power consumption: Typ. =16.0  $\mu$  A;
- Large output current : More than 250mA;
- Dropout voltage:  
 0.03V at 20mA and 0.1V at 50mA;  
 (Typ:  $V_{out}=1.5v$ )
- Input Stability: Typ. 0.03%/V;
- Be available to regulator and reference voltage;
- Packages: SOT23-5.

**Selection Guide**

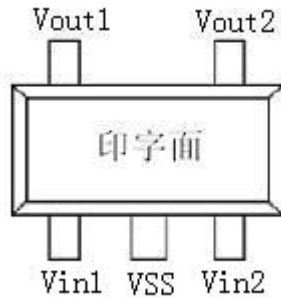


**APPLICATIONS**

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

DESCRIPTION	SYMBOL	PACKAGE	FEATURES
ME3206AAA&BBxx	M5	SOT23-5	Supply current is 8uA
ME3206KAA&BBxx			Supply current is 180uA

## PIN CONFIGURATION



## PIN ASSIGNMENT

### ME3206AAA&BBxx/ ME3206KAA&BBxx

PIN	NAME	FUNCTION
<b>M5</b>		
<b>SOT23-5</b>		
1	Vin1	Input1
2	Vss	Ground
3	Vin2	Input2
4	Vout2	Output2
5	Vout1	Output1

## Absolute Maximum Ratings

PARAMETER	SYMBOL	DESCRIPTION	UNIT
Input Voltage	$V_{IN}$	6.5	V
Output Current	$I_{out}$	500	mA
Output Voltage	$V_{out}$	$V_{ss}-0.3 \sim V_{out}+0.3$	V
Power Dissipation	SOT23-5 $P_d$	300	mW
Operating Ambient Temperature	$T_{Opr}$	-25 ~ +85	°C
Storage Temperature	$T_{stg}$	-40 ~ +125	°C
Soldering Temperature And Time	$T_{solder}$	260°C, 10s	

## Electrical Characteristics

### ME3206AAA&BB

( $V_{in}=V_{out}+1V, C_{in}=C_{out}=1\mu, T_a=25^{\circ}C$  Unless otherwise stated)

PARAMETER	SYMBOL	CONDITION	MIX	TYP	MAX	UNIT
Output Voltage1	$V_{OUT(E)}$ (Note 2)	$I_{OUT}=10mA,$ $V_{IN}=V_{out}+1V$	X 0.98	$V_{OUT(T)}$ (Note 1)	X 1.02	V
Output Voltage2	$V_{OUT(E)}$ (Note 2)	$I_{OUT}=10mA,$ $V_{IN}=V_{out}+1V$	X 0.98	$V_{OUT(T)}$ (Note 1)	X 1.02	V
Maximum Output Voltage	$I_{OUT} (max)$	$V_{IN}=V_{out}+1V$		100		mA
Load Regulation	$\Delta V_{OUT}$	$V_{IN}=V_{out}+1V,$ $1mA \leq I_{OUT} \leq 80mA$		10		mV
Dropout Voltage (Note 3)	$V_{dif1}$	$I_{OUT} = 20mA$		180		mV
	$V_{dif2}$	$I_{OUT} = 50mA$		360		mV
Supply Current	$I_{SS}$	$V_{IN}=V_{out}+1V$		7		$\mu A$
Line Regulations	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \cdot V_{OUT}}$	$I_{OUT} = 10mA$ $V_{out}+1V \leq V_{IN} \leq 5V$		0.1		%/V
Power Supply Ripple Rejection Ratio	PSRR	$V_{in} = [V_{out}+1]V$ $+1V_{p-p}AC$ $I_{OUT} = 10mA, f=1kHz$		50		dB
Short Circuit Current	$I_{short}$	$V_{in}=V_{out(T)}+1.5V$ $V_{out}=V_{SS}$		20		mA
Over Current Protection	$I_{limit}$			200		mA

### ME3206KAA&BB

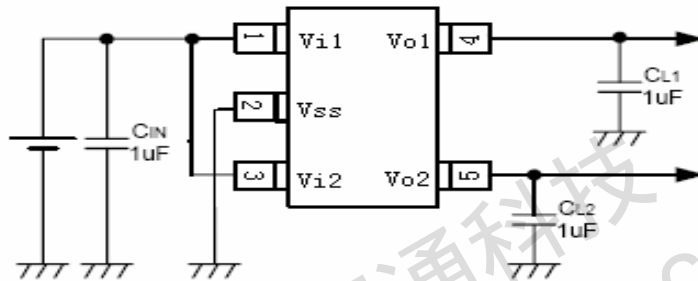
( $V_{in}=V_{out}+1V, C_{in}=C_{out}=1\mu, T_a=25^{\circ}C$  Unless otherwise stated)

PARAMETER	SYMBOL	CONDITION	MIX	TYP	MAX	UNIT
Output Voltage1	$V_{OUT(E)}$ (Note 2)	$I_{OUT}=10mA,$ $V_{IN}=V_{out}+1V$	X 0.98	$V_{OUT(T)}$ (Note 1)	X 1.02	V
Output Voltage2	$V_{OUT(E)}$ (Note 2)	$I_{OUT}=10mA,$ $V_{IN}=V_{out}+1V$	X 0.98	$V_{OUT(T)}$ (Note 1)	X 1.02	V
Maximum Output Voltage	$I_{OUT} (max)$	$V_{IN}=V_{out}+1V$		250		mA
Load Regulation	$\Delta V_{OUT}$	$V_{IN}=V_{out}+1V$ $1mA \leq I_{OUT} \leq 100mA$		14		mV
Dropout Voltage (Note 3)	$V_{dif1}$	$I_{OUT} = 80mA$		180		mV
	$V_{dif2}$	$I_{OUT} = 200mA$		380		mV
Supply Current	$I_{SS}$	$V_{IN}=V_{out}+1V$		180		$\mu A$
Line Regulations	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \cdot V_{OUT}}$	$I_{OUT} = 40mA$ $V_{out}+1V \leq V_{IN} \leq 6V$		0.03		%/V
Power Supply Ripple Rejection Ratio	PSRR	$V_{in} = [V_{out}+1]V$ $+1V_{p-p}AC$ $I_{OUT} = 10mA, f=1kHz$		50		dB
Short Circuit Current	$I_{short}$	$V_{in}=V_{out(T)}+1.5V$ $V_{out}=V_{SS}$		30		mA
Over Current Protection	$I_{limit}$			500		mA

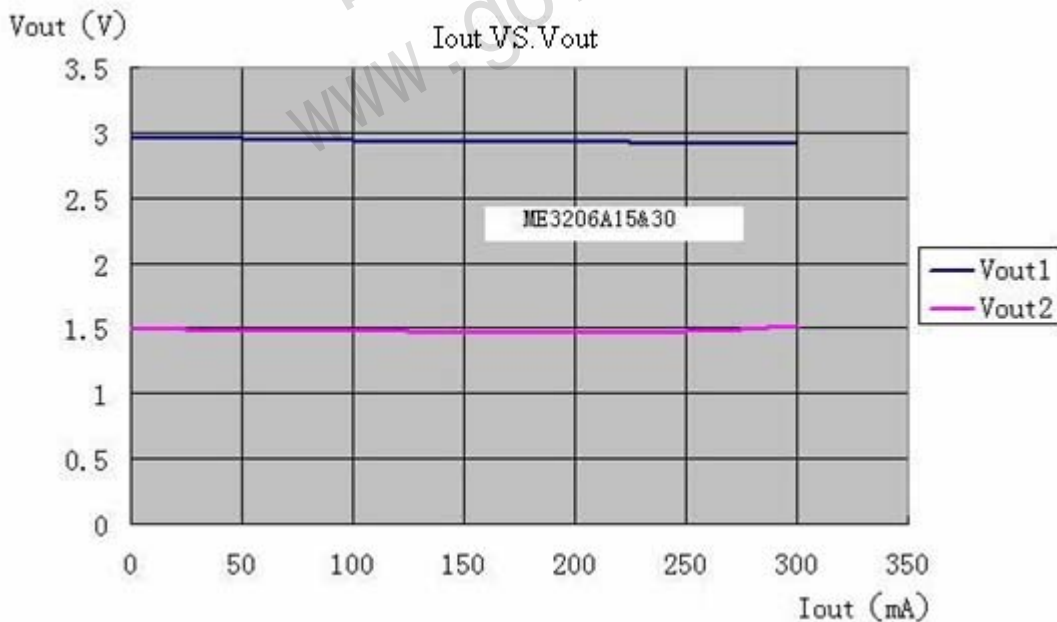
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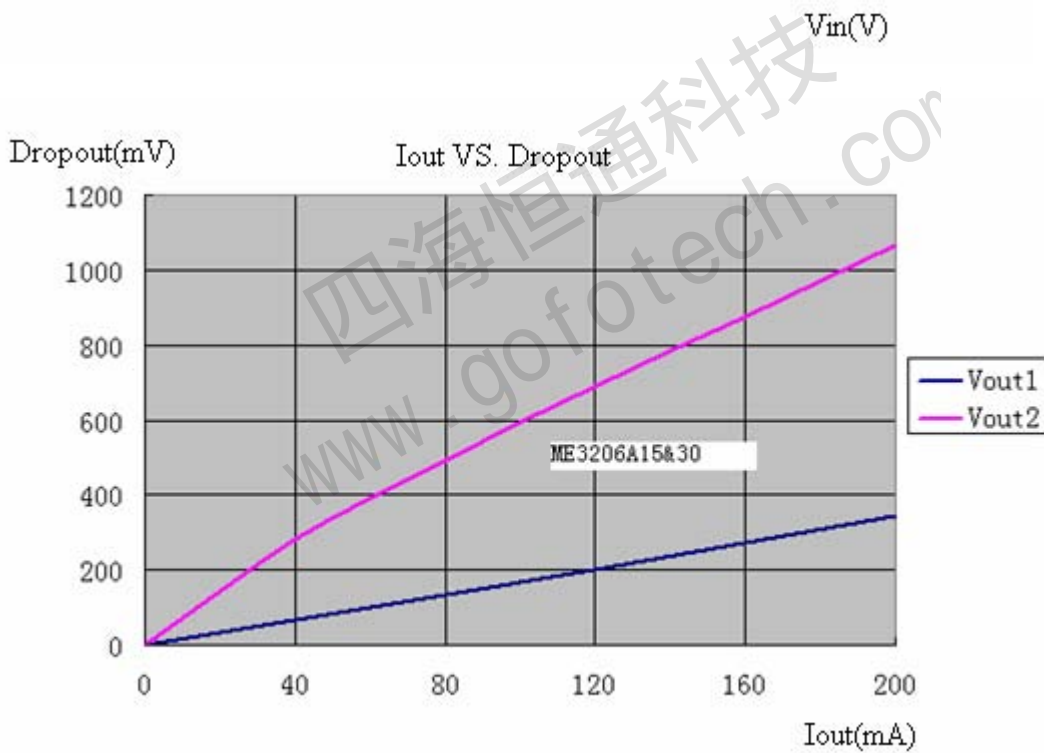
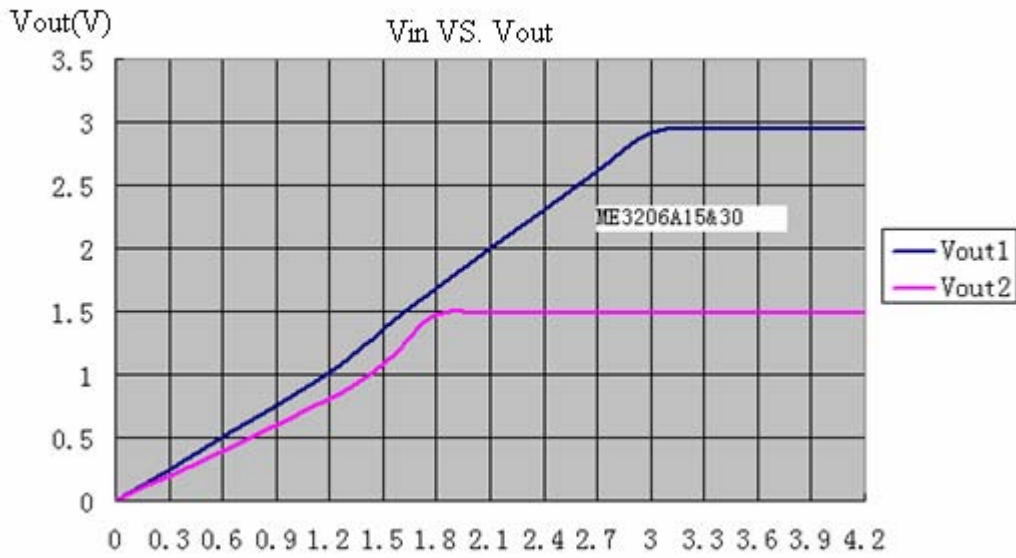
1.  $V_{OUT}(T)$  : Specified Output Voltage
2.  $V_{OUT}(E)$  : Effective Output Voltage ( i.e. The output voltage when “ $V_{OUT}(T)+1.0V$ ” is provided at the  $V_{in}$  pin while maintaining a certain  $I_{out}$  value.)
3.  $V_{dif}$  :  $V_{IN1} - V_{OUT}(E)'$   
 $V_{IN1}$  : The input voltage 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  $I_{out} \{V_{OUT}(T)+1.0V\}$  is input.

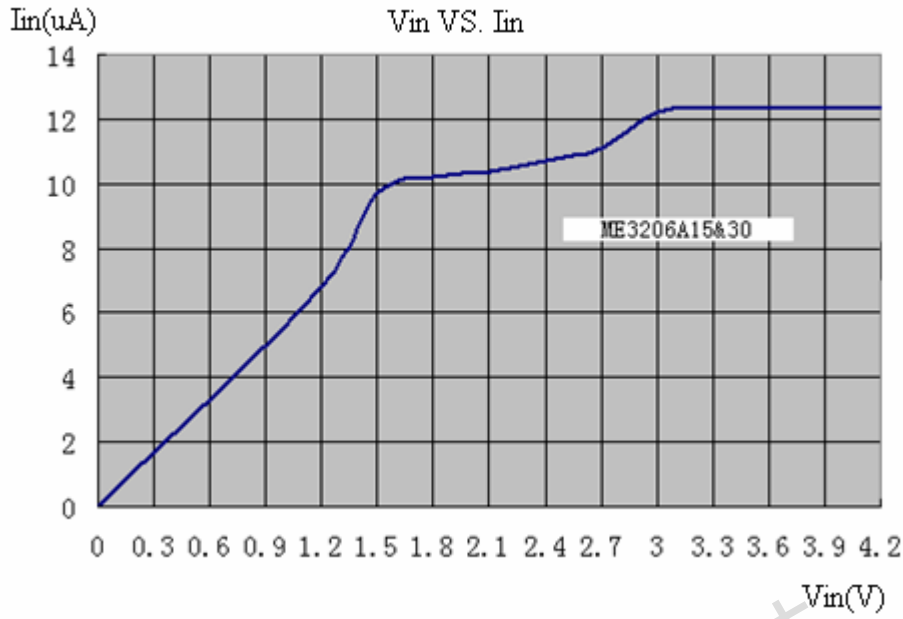
### Test Circuits



### Type Characteristics

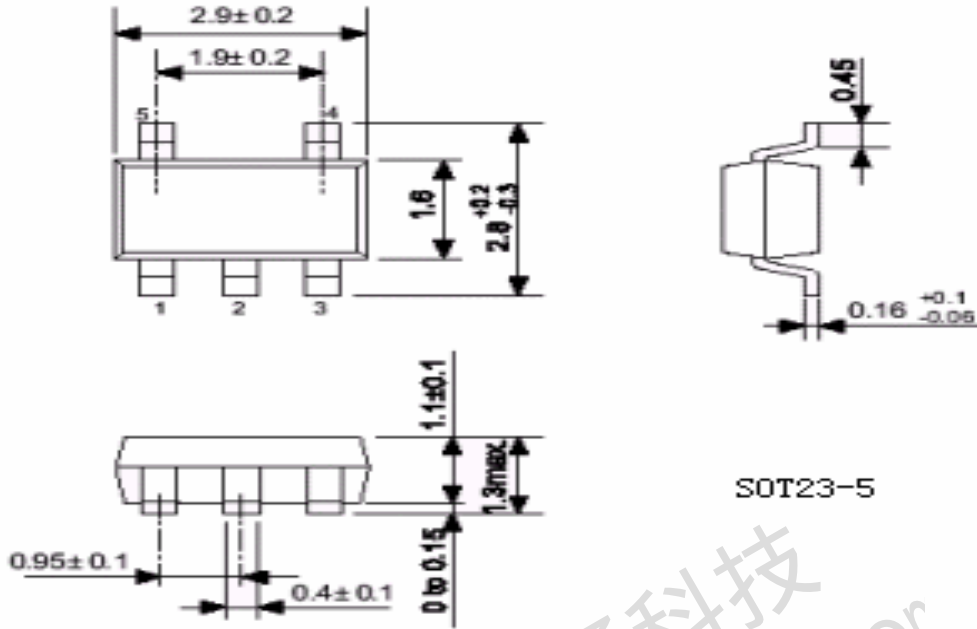






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### Package Dimensions



SOT23-5

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