

ME3206 Series Low ESR Cap Compatible Positive Voltage Regulators

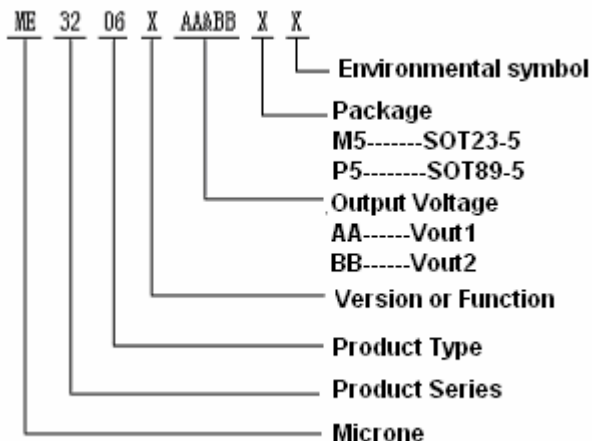
ME3206 series are highly precise, low power consumption, high voltage, positive voltage regulators manufactured using CMOS and laser trimming technologies. The series provides large currents with a significantly small dropout voltage.

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 μ 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

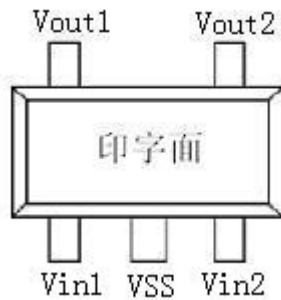


APPLICATIONS

- 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
M5		
SOT23-5		
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	ΔV_{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		μA
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

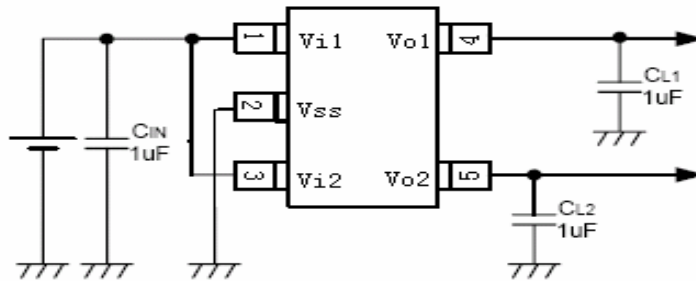
($V_{IN}=V_{out}+1V, C_{in}=C_{out}=1\mu, T_a=25^\circ C$ Unless otherwise stated)

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	ΔV_{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		μA
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

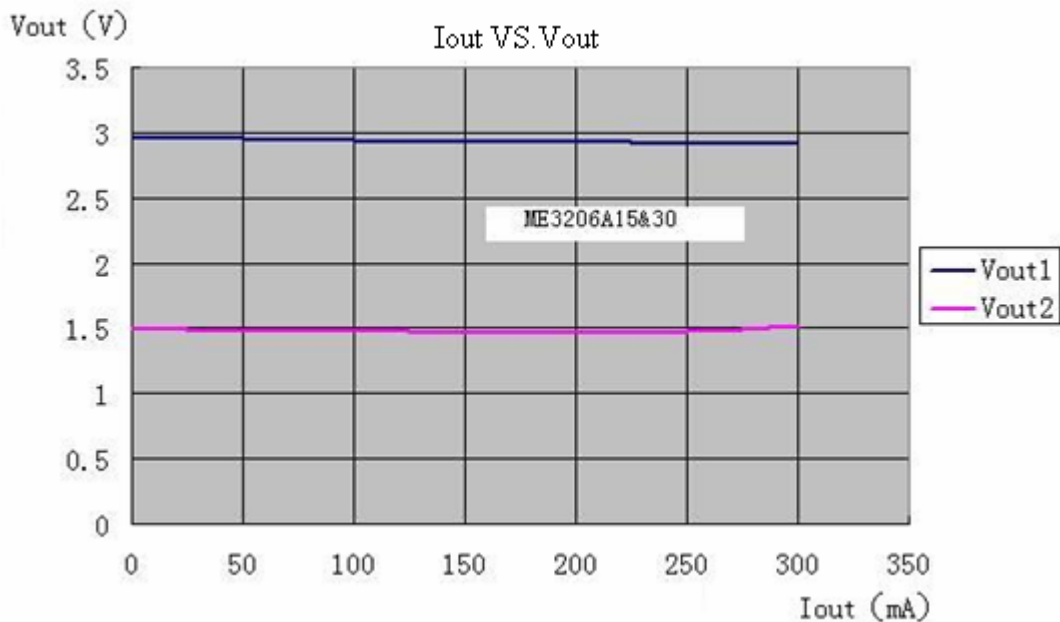
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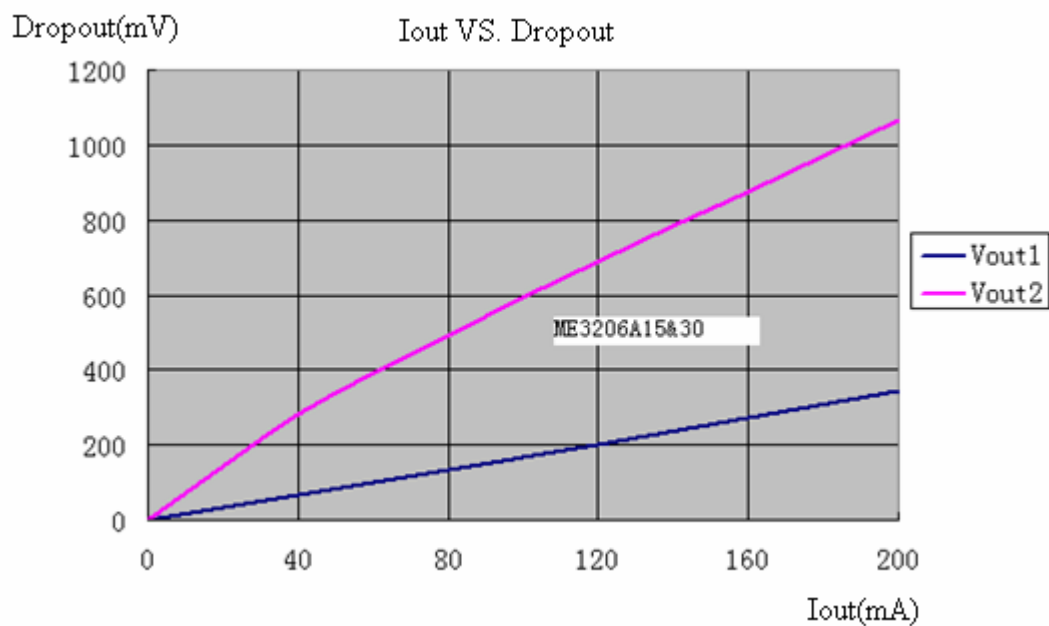
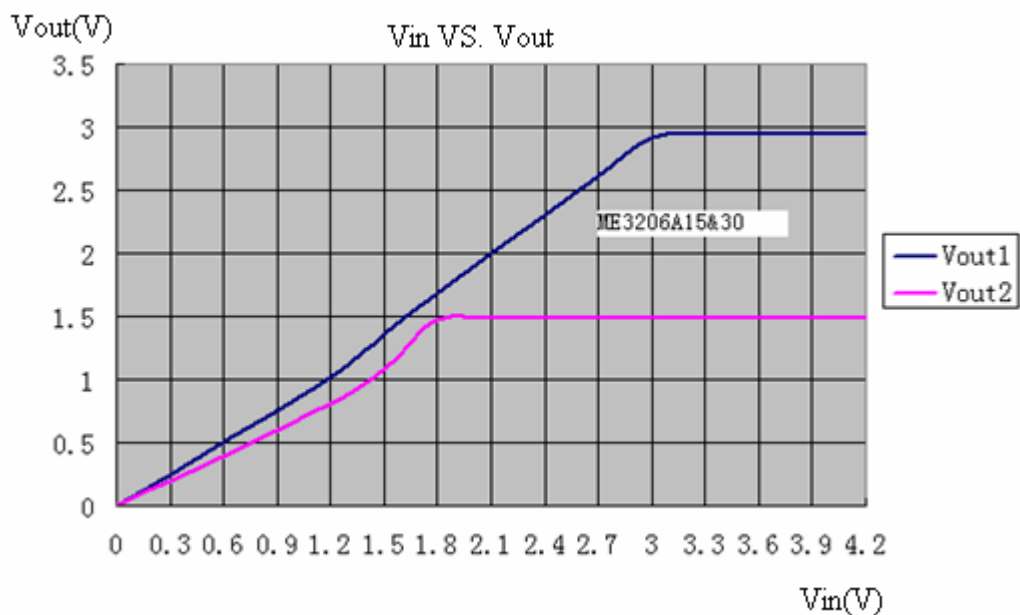
1. $V_{OUT(T)}$: Specified Output Voltage
2. $V_{OUT(E)}$: Effective Output Voltage (i.e. The output voltage when " $V_{OUT(T)}+1.0V$ " is provided at the V_{in} pin while maintaining a certain I_{out} value.)
3. V_{dif} : $V_{IN1} - V_{OUT(E)}$
 V_{IN1} : The input voltage when $V_{OUT(E)}$ appears 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.

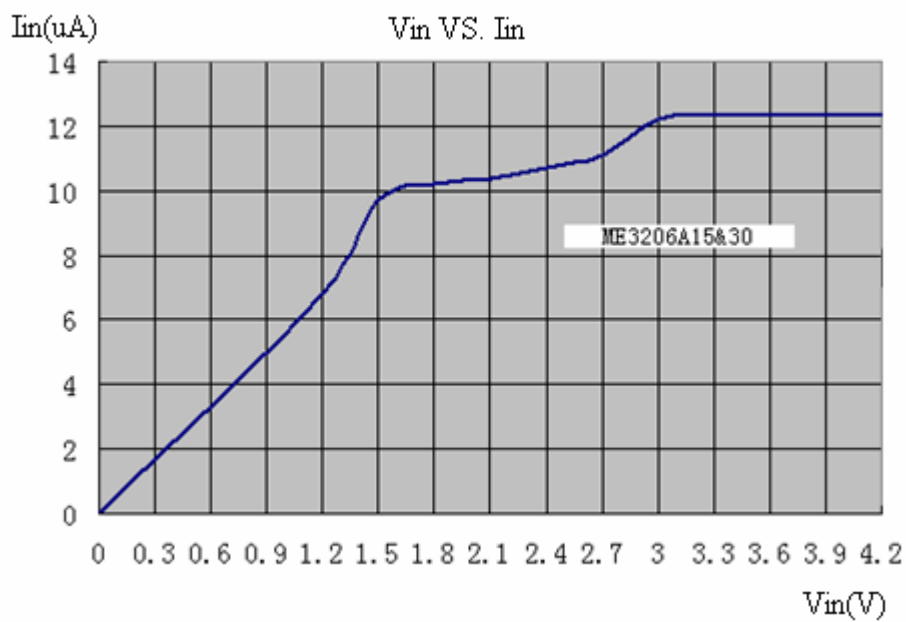
Test Circuits



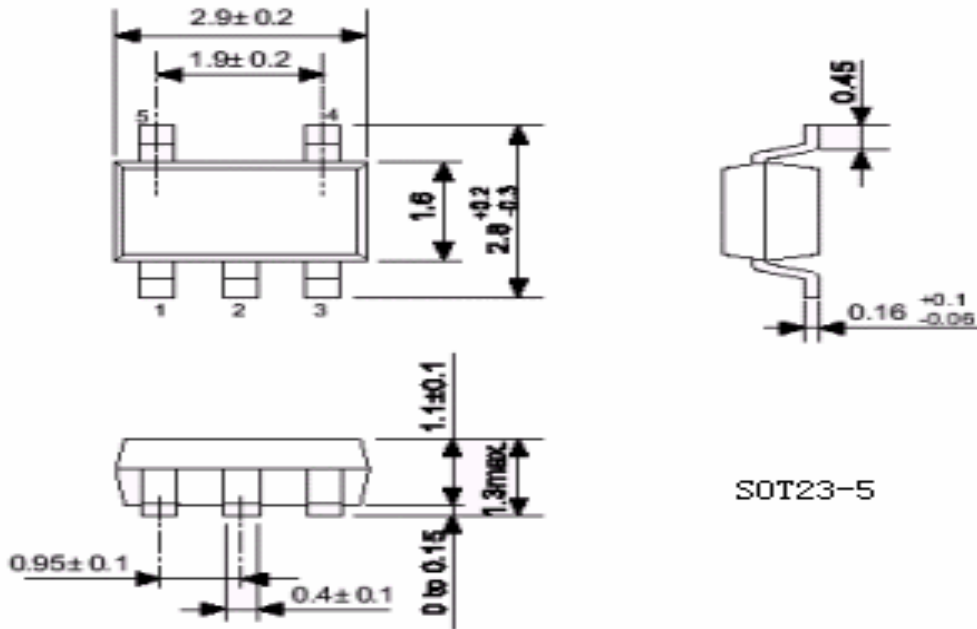
Type Characteristics







Package Dimensions



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