

ME6401 Series Low ESR Cap Compatible Positive Voltage Regulators

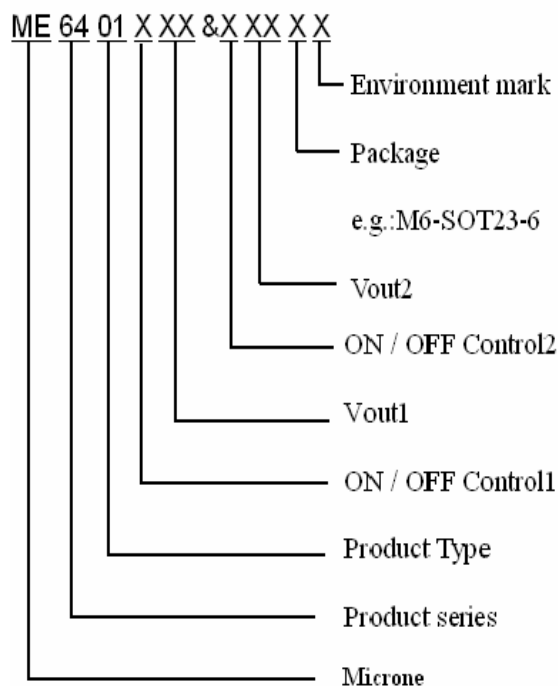
ME6401 series are highly precise, low power consumption, high voltage, positive voltage regulators manufactured using CMOS and laser trimming technologies. The series provides large currents with a significantly small dropout voltage.

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: 1.2V~5.0V
- Low power consumption: Typ. $=90\mu A$
- Large output current : More than 450mA ($V_{out}=2.8V$)
- Dropout voltage:
200mV at 100mA and 400mV at 200mA;
- Highly Accurate y: $\pm 2\%$
- Be available to regulator and reference voltage
- Packages: SOT23-6

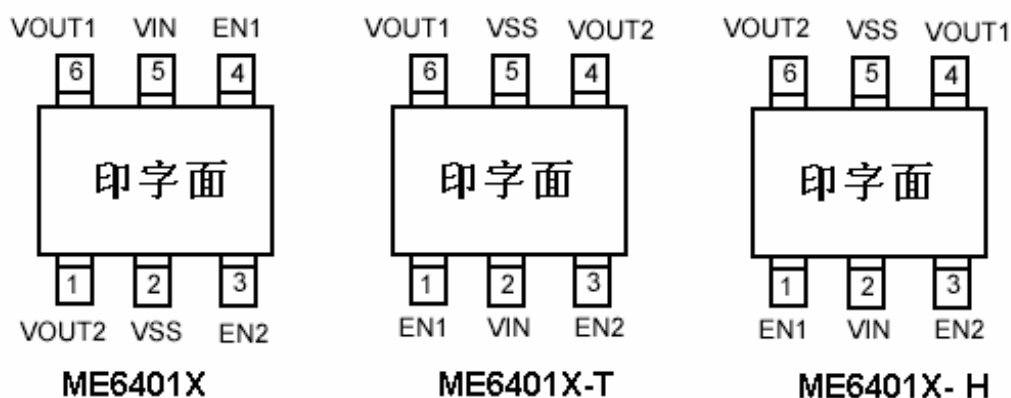
Selection Guide



APPLICATIONS

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

PIN CONFIGURATION



PIN ASSIGNMENT

ME6401CXX&Cxx

PIN			NAME	FUNCTION
ME6401X	ME6401X-T	ME6401X-H		
4	1	1	EN1	ON / OFF Control1
5	2	2	VIN	INPUT1
3	3	3	EN2	ON / OFF Control2
1	4	6	VOUT2	OUTPUT2
2	5	5	VSS	GROUND
6	6	4	VOUT1	OUTPUT2

Absolute Maximum Ratings

PARAMETER		SYMBOL	DESCRIPTION	UNIT
Input Voltage		V_{IN}	6.5	V
Output Current		I_{out}	700	mA
Output Voltage		V_{out}	$V_{ss}-0.3 \sim V_{out}+0.3$	V
Power Dissipation	SOT23-6	P_d	250	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

ME6401CXX&Cxx

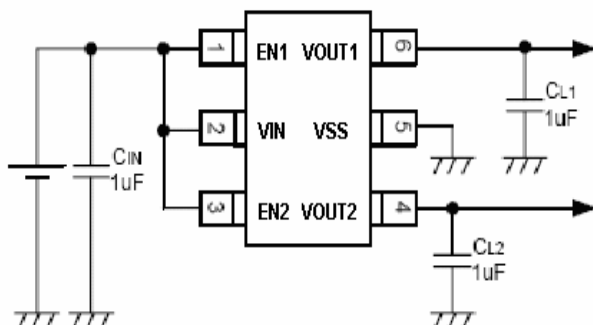
($V_{in}=V_{out}+1V$, $C_{in}=C_{out}=1\mu$, $T_a=25^{\circ}C$ Unless otherwise stated)

PARAMETER	SYMBOL	CONDITION	MIX	TYP	MAX	UNIT
Output Voltage	$V_{OUT}(E)$ (Note 2)	$I_{OUT}=10mA$,	X 0.98	$V_{OUT}(T)$ (Note 1)	X 1.02	V
Maximum Output Voltage	$I_{OUT} (max)$	$V_{OUT} (1.8V)$		300		mA
		$V_{OUT} (2.8V)$		450		mA
Load Regulation	ΔV_{OUT}	$1mA \leq I_{OUT} \leq 100mA$		9		mV
Dropout Voltage (Note 3)	V_{dif1}	$I_{OUT} = 100mA$		200		mV
	V_{dif2}	$I_{OUT} = 200mA$		400		mV
Supply Current	I_{SS}			90		μA
Stand-by Current	I_{CEL}	$V_{EN}=V_{SS}$		0.1		μA
Line Regulations	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \cdot V_{OUT}}$	$I_{OUT} = 40mA$ $V_{out}+1V \leq V_{in} \leq 6V$		0.05		%/V
CE "High" Voltage	V_{CEH}	Start up	1.0			V
CE "Low" Voltage	V_{CEL}	Shut down			0.7	V
Power Supply Ripple Rejection Ratio	PSRR	$V_{in}=[V_{out}+1]V$ $+1Vp-pAC$ $I_{OUT} = 50mA, f=1kHz$		70		dB
Output noise	EN	$I_{OUT}=40mA$ $300Hz \sim 50kHz$		50		μV_{rms}
Short Circuit Current	I_{SHORT}	$V_{OUT} (1.8V) = V_{SS}$		30		mA
		$V_{OUT} (2.8V) = V_{SS}$		100		mA

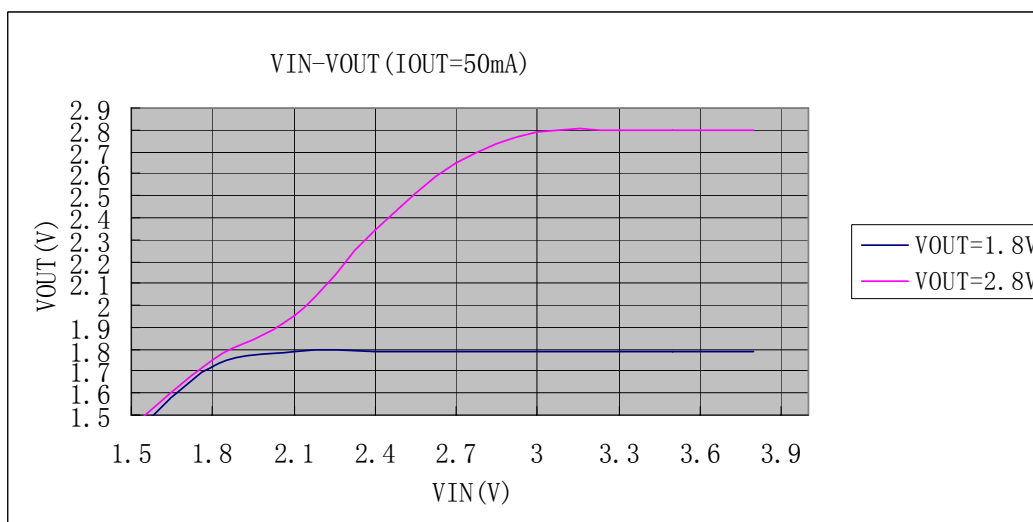
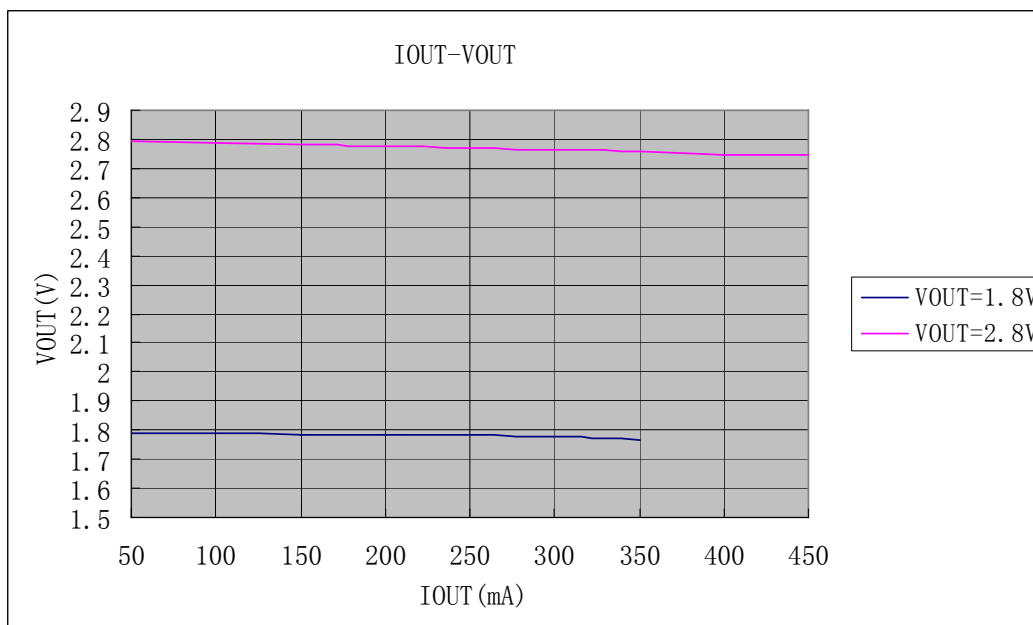
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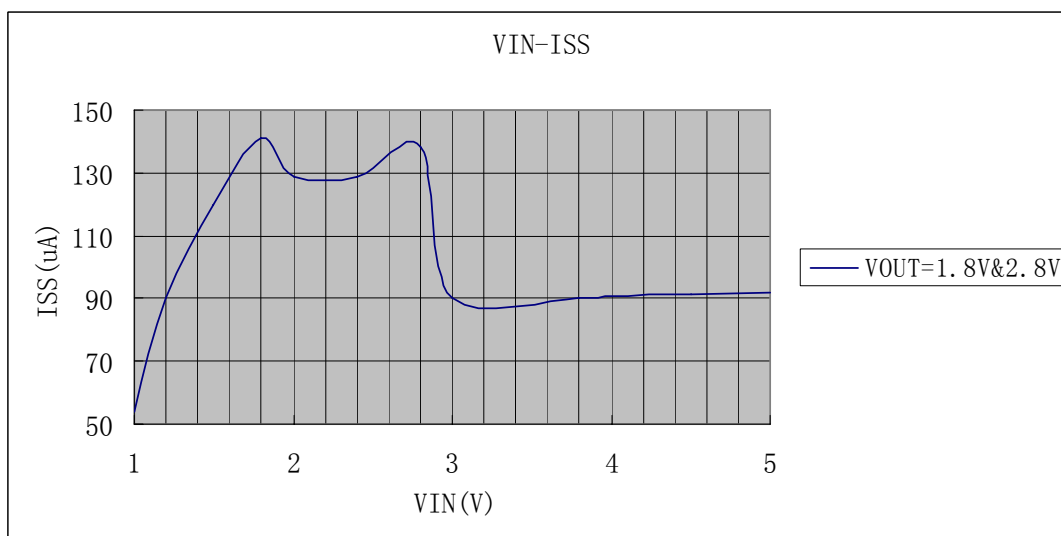
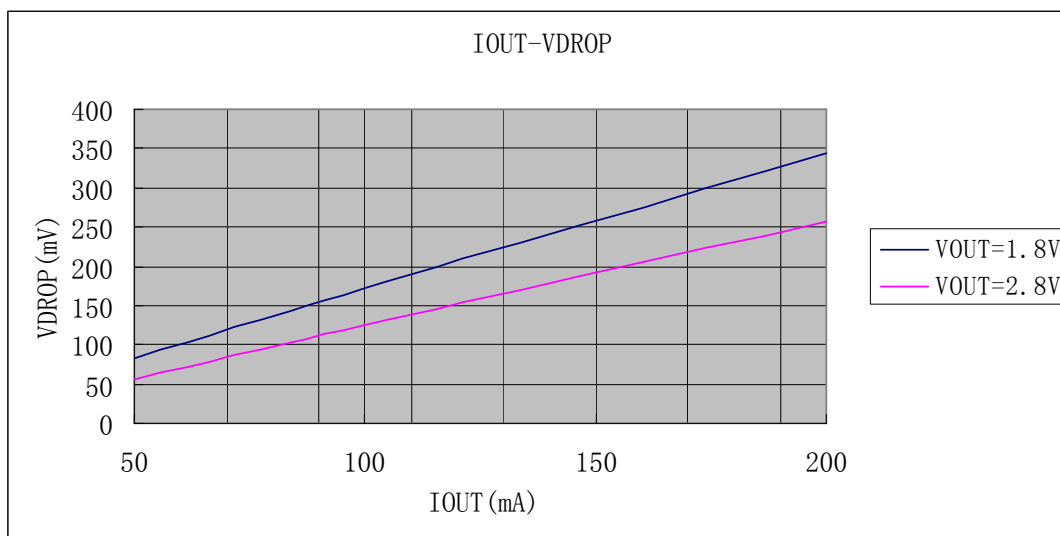
- $V_{OUT} (T)$: Specified Output Voltage
- $V_{OUT} (E)$: Effective Output Voltage (i.e. The output voltage when " $V_{OUT} (T)+1.0V$ " is provided at the V_{in} pin while maintaining a certain I_{out} value.)
- V_{dif} : $V_{IN1} - V_{OUT} (E)'$
 V_{IN1} : The input voltage when $V_{OUT}(E)'$ appears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

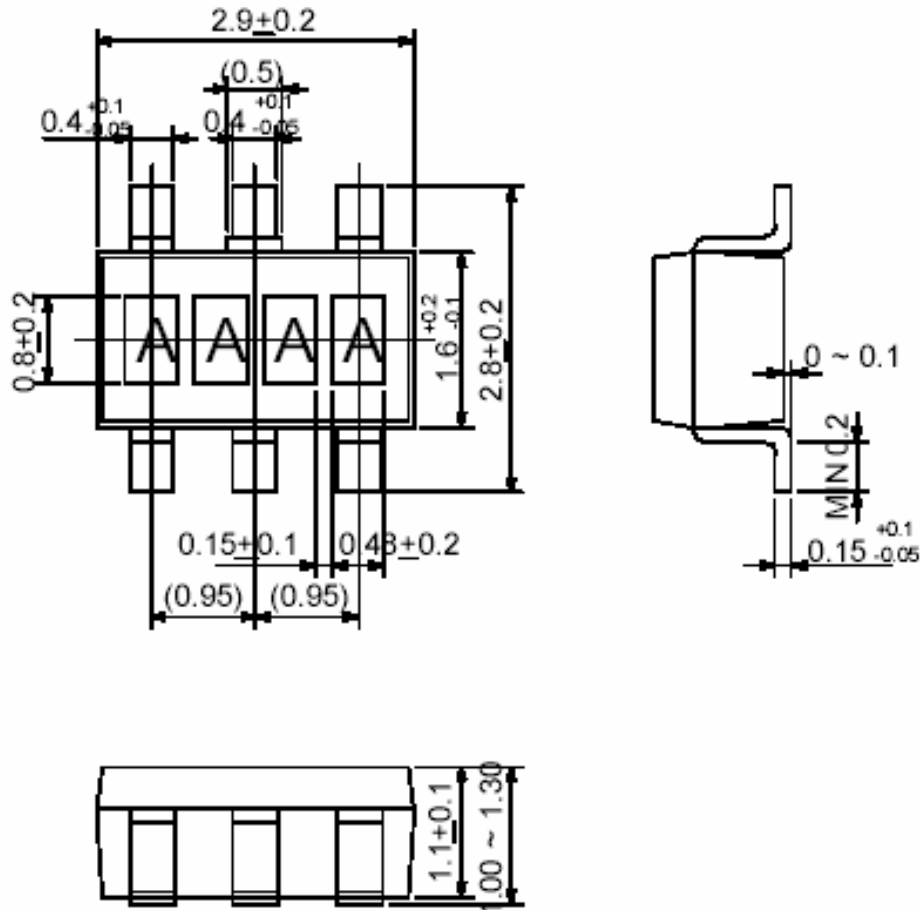


Type Characteristics





Package Dimensions



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