



50 mA, high input voltage LDO Linear Regulators

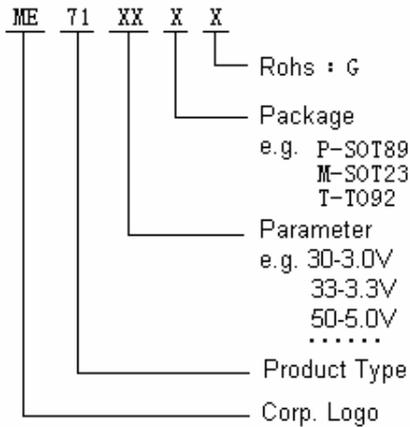
Descriptions

ME71XX series are low-dropout linear voltage regulators with a built-in voltage reference module, error correction module and phase compensation module. ME71XX series are based on the CMOS process and allow high voltage input with low quiescent current. This series has the function of internal feedback resistor setting from 3V to 5V. The output accuracy is $\pm 3\%$.

Features

- High output accuracy: $\pm 3\%$
- Input voltage: up to 9 V
- Output voltage: 3.0 V ~ 5.0V
- Ultra-low quiescent current (Typ. = 3 μ A)
- When $V_{in} = 5.3V$ and $V_{out} = 3.3V$ when $I_{out} = 50mA$
- Importation good stability: Typ. 0.3% / V
- Low temperature coefficient
- Ceramic capacitor can be used
- Package: SOT23, SOT89, TO92

Selection Guide

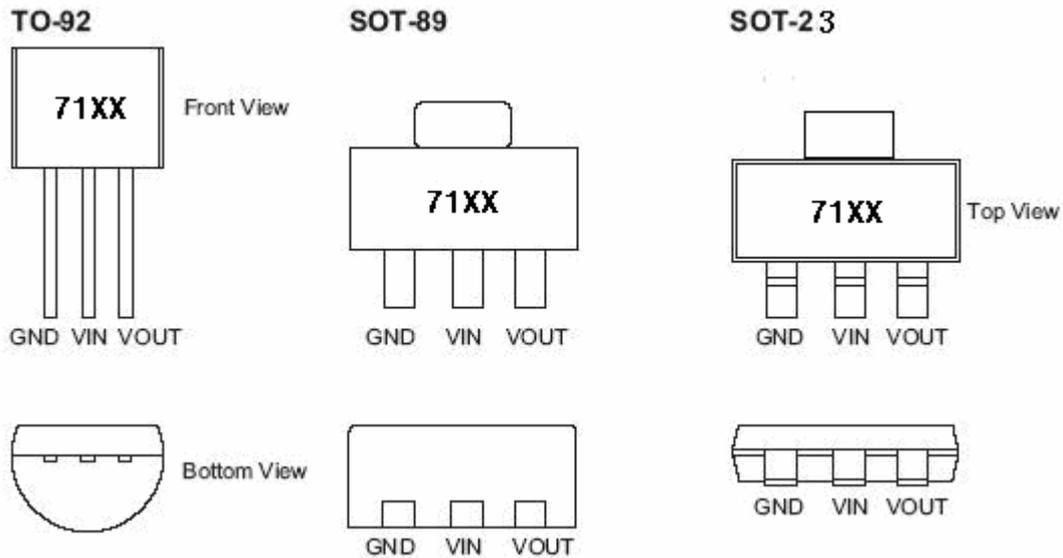


Applications

- Electronic weighbridge
- SCM
- Phones, cordless phones
- Security Products
- Water meters, power meters

TYPE	POSTFIX	PACKAGE	CE FUNCTION	FEATURES
ME71xx	M	SOT23-3	No	
	P	SOT89-3		
	T	TO92		

Pin Configuration

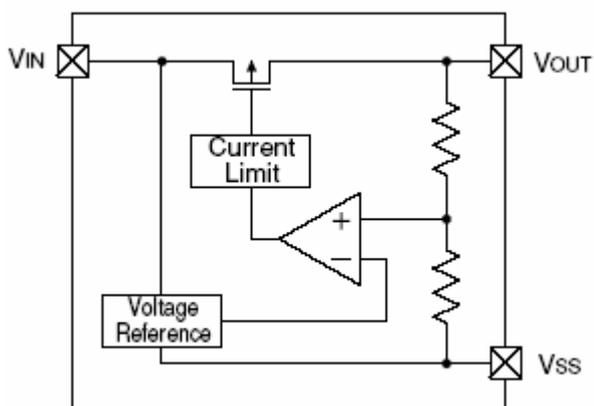


Pin Assignment

ME71xx

PIN Number			PIN NAME	FUNCTION
SOT23-3	SOT89-3	TO92		
1	1	1	Vss	Ground
2	2	2	Vin	input
3	3	3	Vout	Output

Block Diagram



Absolute Maximum Ratings

PARAMETER		SYMBOL	RATINGS	UNITS
Input Voltage		V_{IN}	9	V
Output Current		I_{out}	200	mA
Output Voltage		V_{out}	$V_{SS}-0.3 \sim V_{out}+0.3$	V
Power Dissipation	SOT89	P_d	500	mW
	TO92	P_d	500	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

ME71xx

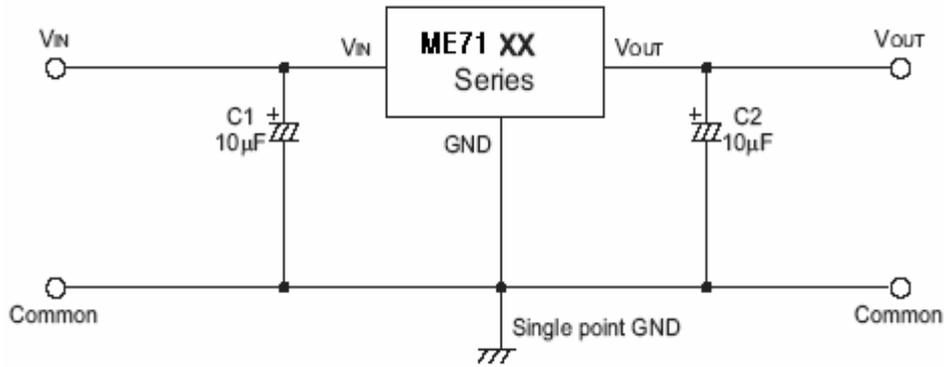
($V_{in}=V_{out}+2V, C_{in}=C_{out}=1\mu, T_a=25^\circ C$ Unless otherwise stated)

PARAMETER	SYMBOL	CONDITION	MIX	TYP	MAX	UNITS
Output Voltage	$V_{OUT}(E)$ (Note 2)	$I_{OUT}=40mA,$ $V_{IN}=V_{out}+2V$	X 0.97		X 1.03	V
Input Voltage	V_{IN}				9	
Maximum Output Voltage	$I_{OUT \max}$	$V_{IN}=V_{out}+2V$		50		mA
Load Regulation	ΔV_{OUT}	$V_{IN}=V_{out}+2V,$ $1mA \leq I_{OUT} \leq 100mA$		30		mV
Dropout Voltage (Note 3)	V_{dif1}	$I_{OUT} = 1mA$		50		mV
	V_{dif2}	$I_{OUT} = 10mA$		200		mV
Supply Current	I_{SS}	$V_{IN}=V_{out}+2V$		3		μA
Line Regulations	$\frac{\Delta V_{OUT}}{\Delta V_{IN} * V_{OUT}}$	$I_{OUT} = 40mA$ $V_{out}+2V \leq V_{IN} \leq 20V$		0.3		%/V

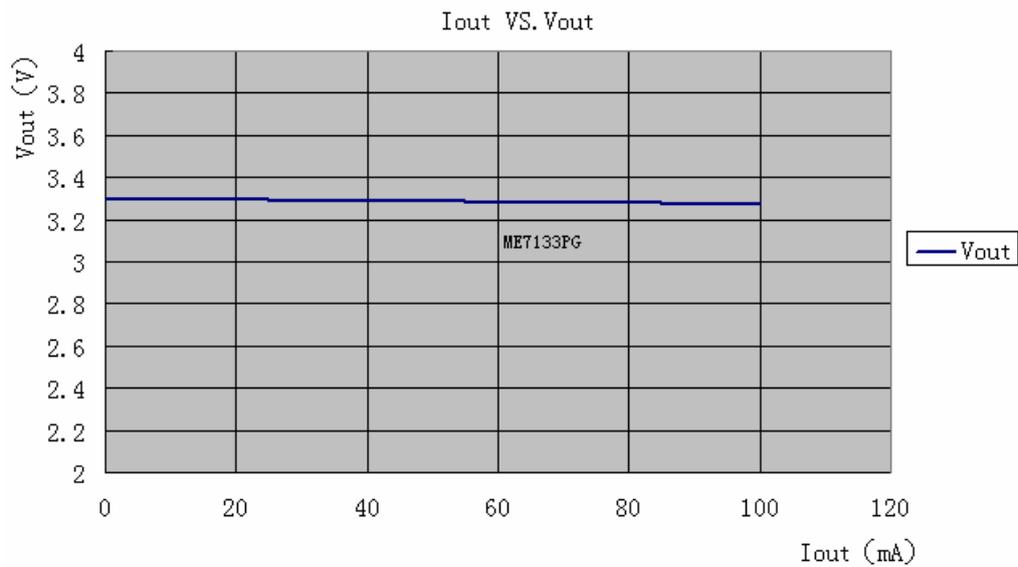
Note :

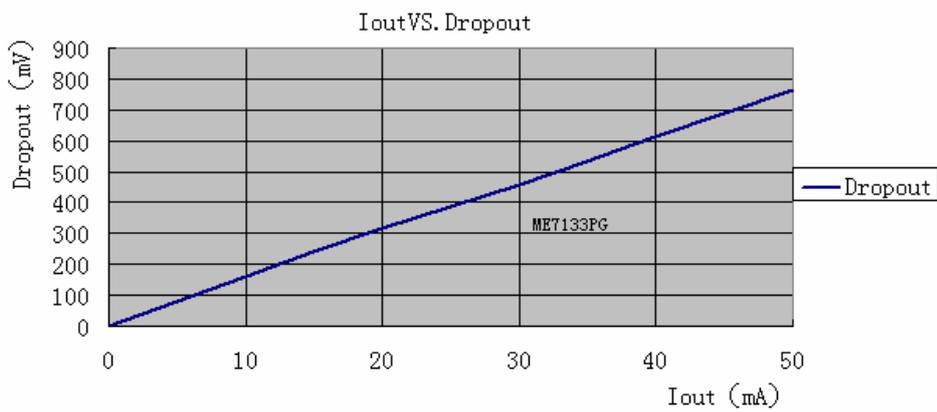
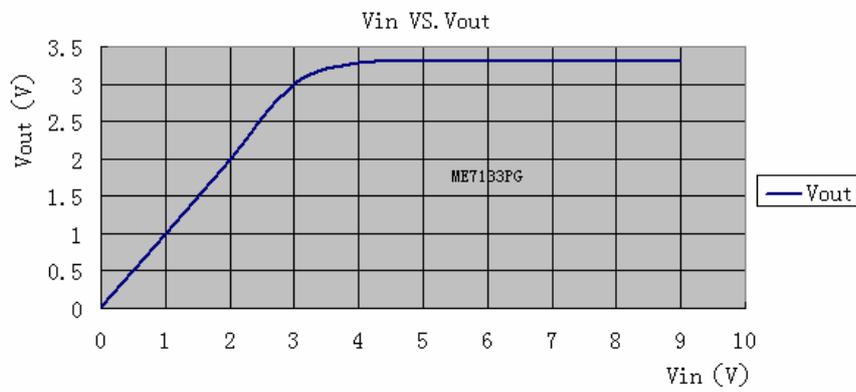
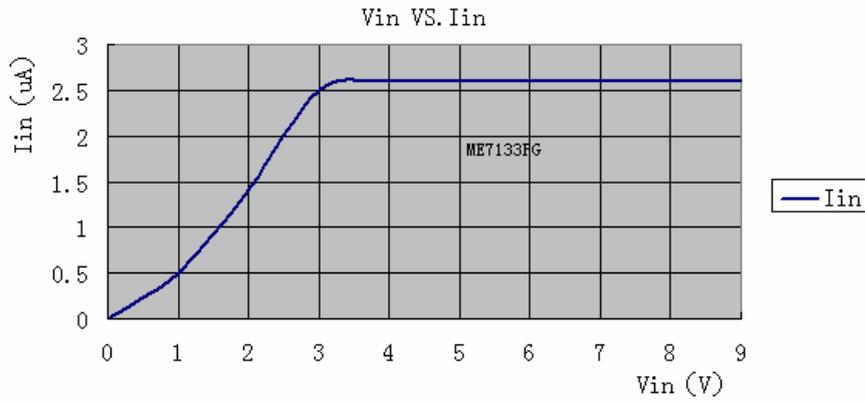
- $V_{OUT}(T)$: Specified Output Voltage
- $V_{OUT}(E)$: Effective Output Voltage (i.e. The output voltage when " $V_{OUT}(T)+2.0V$ " is provided at the V_{in} pin while maintaining a certain I_{out} value.)
- V_{dif} : $V_{IN1} - V_{OUT}(E)$
 V_{IN1} : The input voltage when $V_{OUT}(E)$ appears as input voltage is gradually decreased.
 $V_{OUT}(E)$: A voltage equal to 98% of the output voltage whenever an amply stabilized $I_{out} \{V_{OUT}(T)+2.0V\}$ is input.

Test Circuits

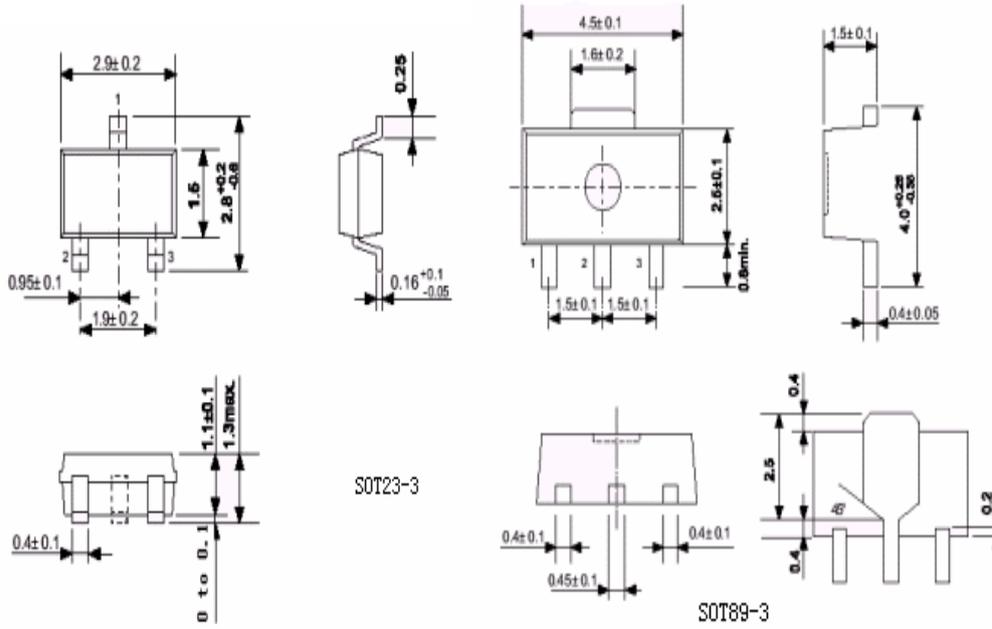


Type Characteristics





Package Dimensions



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