



# ME6208

## 150 mA, high input voltage LDO Linear Regulators ME6208 Series

### General Description

ME6208 series are low-dropout linear voltage regulators with a built-in voltage reference module, error correction module and phase compensation module. ME6208 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 3.0V to 5.0V. The output accuracy is  $\pm 2\%$ .

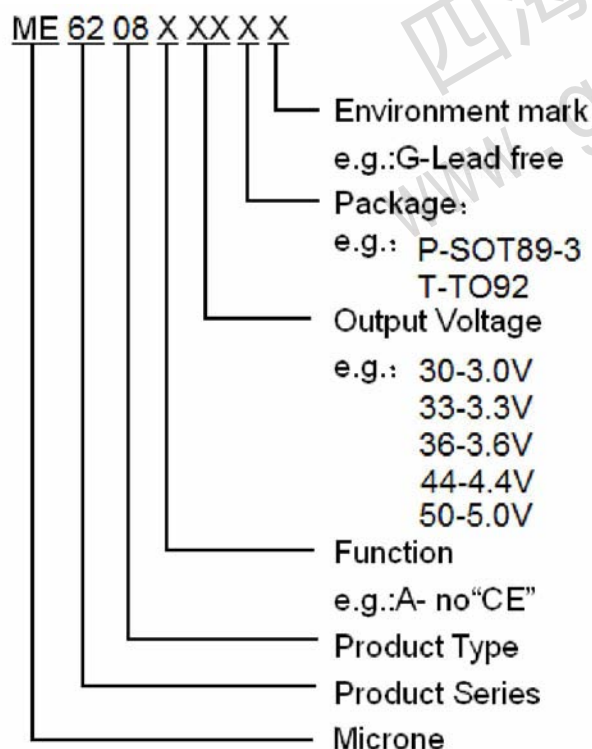
### Features

- | High output accuracy :  $\pm 2\%$
- | Input voltage : up to 18 V
- | Output voltage : 3.0 V ~ 5.0V
- | Ultra-low quiescent current (Typ. = 3  $\mu$  A)
- | Output Current : Iout = 200mA  
( When Vin = 7V and Vout =5V )
- | Importation good stability : Typ. 0.05% / V
- | Low temperature coefficient
- | Ceramic capacitor can be used
- | Package : SOT89-3, TO92

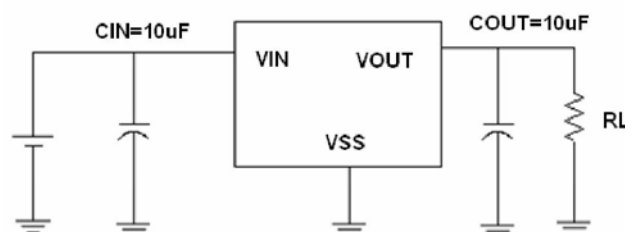
### Typical Application

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

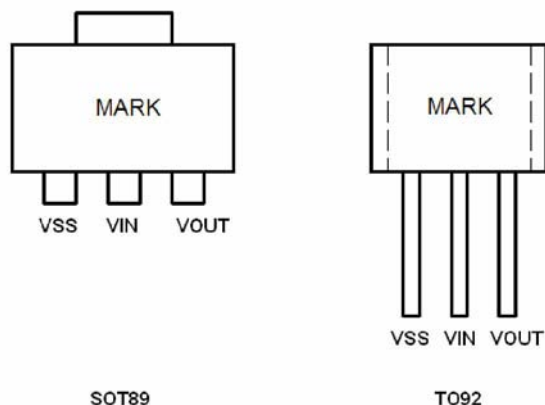
### Selection Guide



### Typical Application Circuit



## Pin Configuration



## Pin Assignment

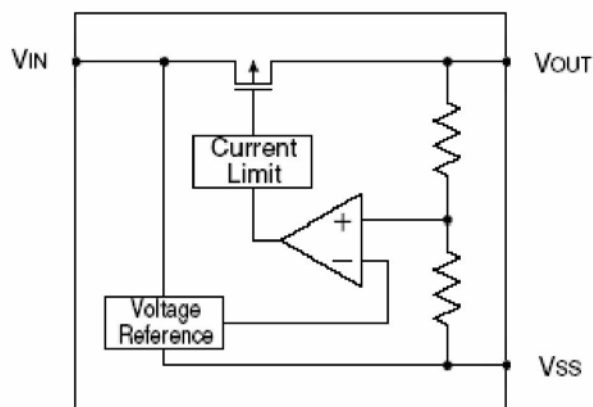
ME6208AXX

Pin Number		Pin Name	Functions
SOT89-3	TO92		
1	1	$V_{SS}$	Ground
2	2	$V_{IN}$	Power Input
3	3	$V_{OUT}$	Output

## Absolute Maximum Ratings

Parameter	Symbol	Ratings	Units
Input Voltage	$V_{IN}$	18	V
Output Current	$I_{OUT}$	250	mA
Output Voltage	$V_{OUT}$	$V_{SS}-0.3 \sim V_{IN} +0.3$	V
Power Dissipation	SOT89-3	500	mW
	TO92	500	mW
Operating Temperature Range	$T_{OPR}$	- 25 ~ + 85	
Storage Temperature Range	$T_{STG}$	- 40 ~ + 125	
Lead Temperature		260 , 10sec	

## Block Diagram



## Electrical Characteristics

### ME6208A

( $V_{IN} = V_{OUT} + 2.0V$ ,  $C_{IN} = C_L = 10\mu F$ ,  $T_a = 25^\circ C$ , unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Output Voltage	$V_{OUT(E)}$ (Note 2)	$I_{OUT} = 40mA$ , $V_{IN} = V_{out} + 2V$	X 0.98	$V_{OUT(T)}$ (Note 1)	X 1.02	V
Input Voltage	$V_{IN}$				18	V
Maximum Output Current	$I_{OUT\_max}$	$V_{IN} = V_{out} + 2V$	150			mA
Load Regulation	$V_{OUT}$	$V_{IN} = V_{out} + 2V$ , $1mA \leq I_{OUT} \leq 100mA$		10		mV
Dropout Voltage (Note 3)	$V_{dif1}$	$I_{OUT} = 50mA$		250		mV
	$V_{dif2}$	$I_{OUT} = 100mA$		500		mV
	$V_{dif3}$	$I_{OUT} = 200mA$		1000		mV
Supply Current	$I_{SS}$	$V_{IN} = V_{out} + 2V$		3		$\mu A$
Line Regulations	$\frac{V_{OUT}}{V_{IN} \times V_{OUT}}$	$I_{OUT} = 40mA$ $V_{out} + 2V \leq V_{IN} \leq 18V$		0.05		%/V

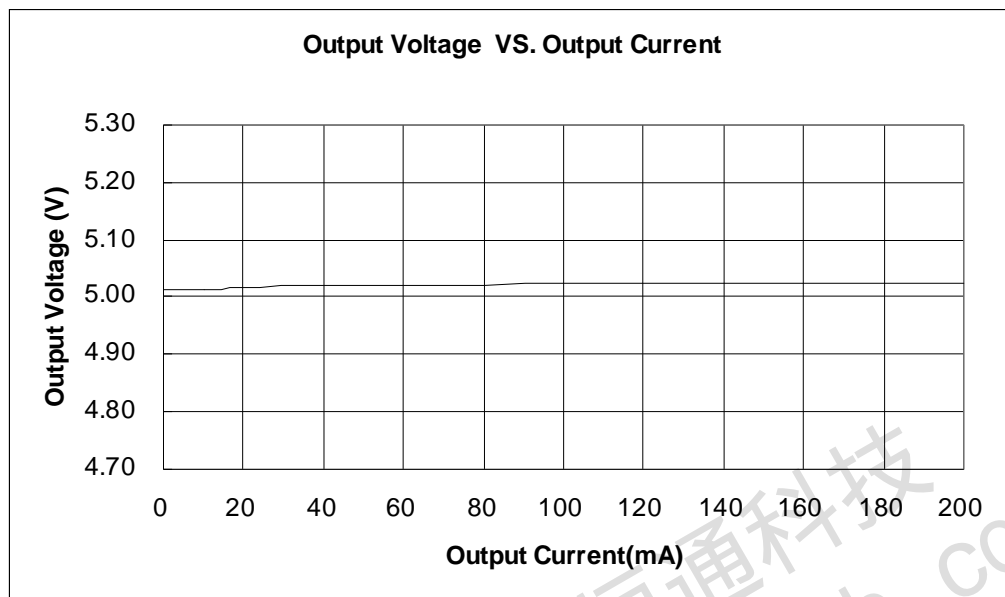
Note :

- $V_{OUT(T)}$  : Specified Output Voltage
- $V_{OUT(E)}$  : Effective Output Voltage ( ie. The output voltage when " $V_{OUT(T)} + 2.0V$ " is provided at the Vin pin while maintaining a certain Iout 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 Iout and  $\{V_{OUT(T)} + 2.0V\}$  is input.

## Type Characteristics

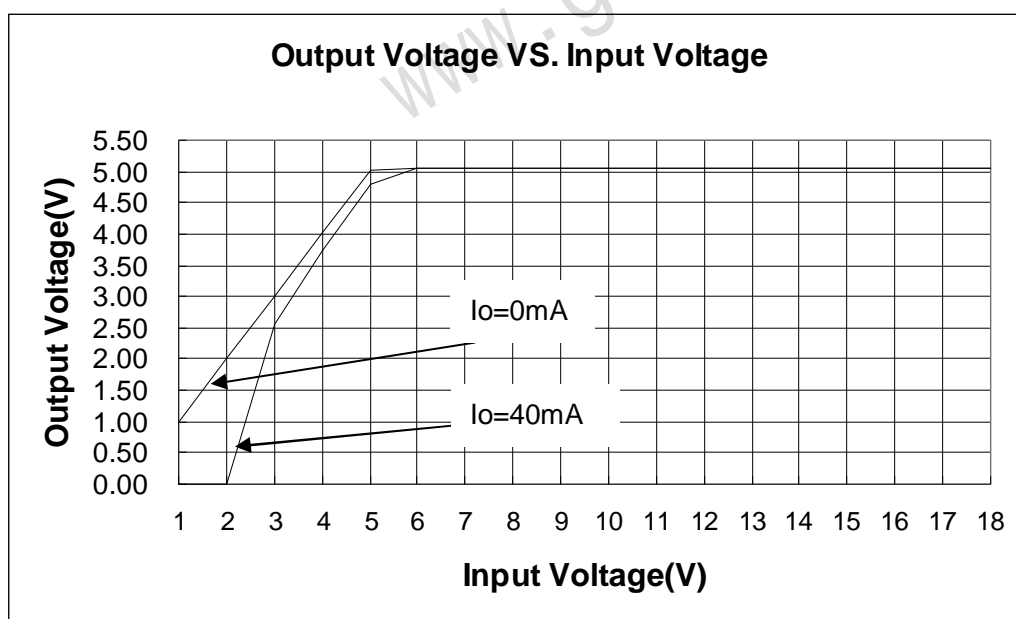
( 1 ) Output Current VS. Output Voltage (  $T_a = 25\text{ }^\circ\text{C}$  )

ME6208A50



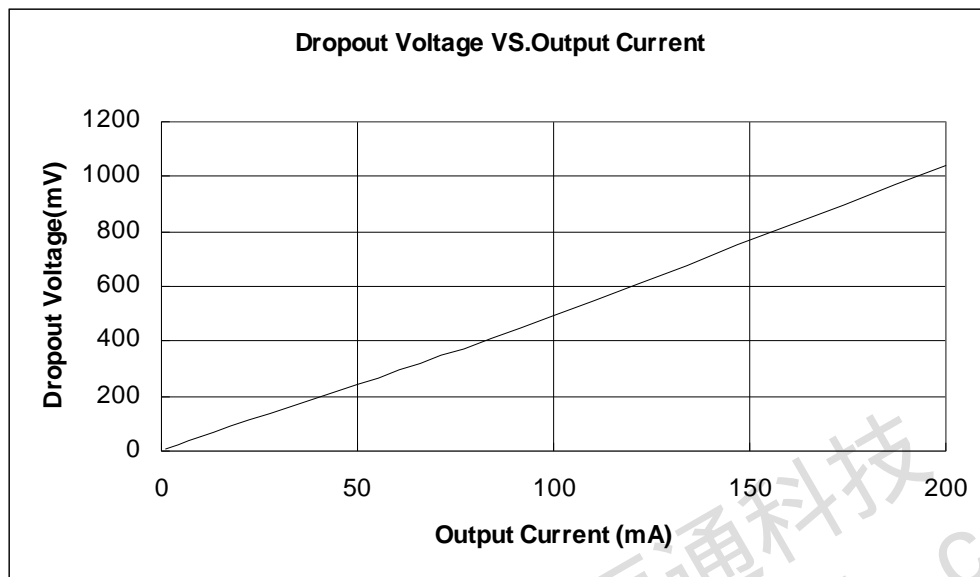
( 2 ) Input Voltage VS. Output Voltage (  $T_a = 25\text{ }^\circ\text{C}$  )

ME6208A50



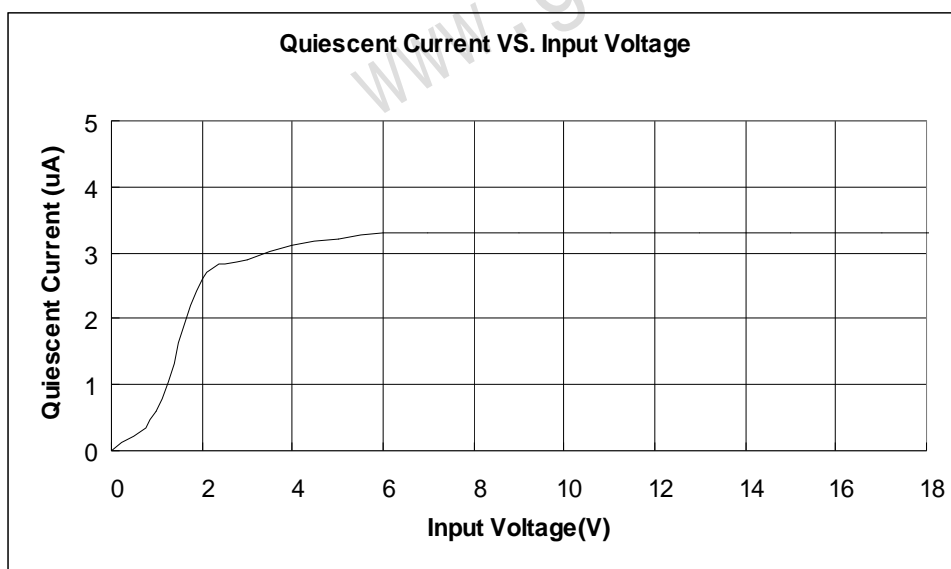
(3) Output Current VS. Dropout Voltage (  $T_a = 25\text{ }^\circ\text{C}$  )

ME6208A50



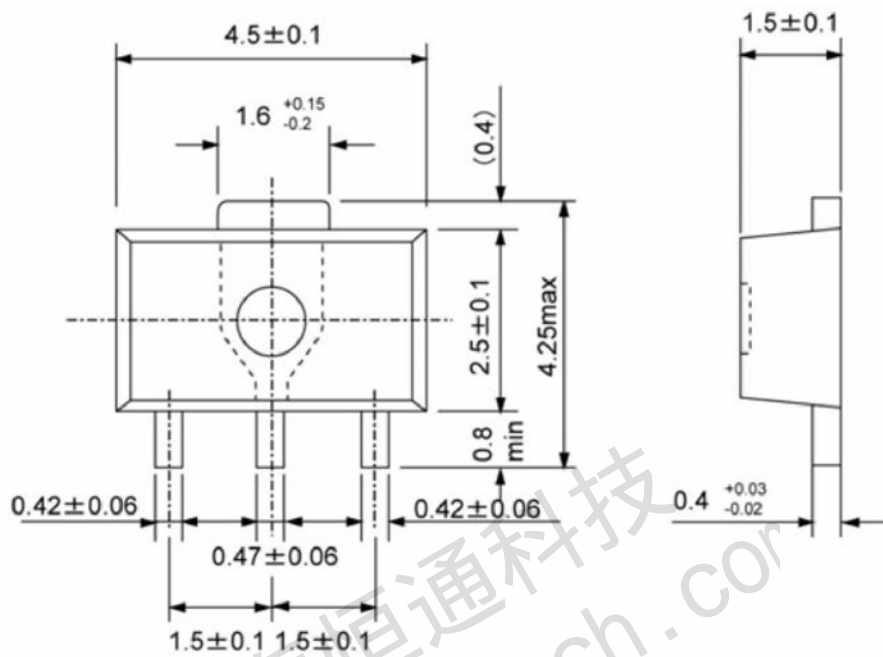
(4) Input Voltage VS. Supply Current (  $T_a = 25\text{ }^\circ\text{C}$  )

ME6208A50

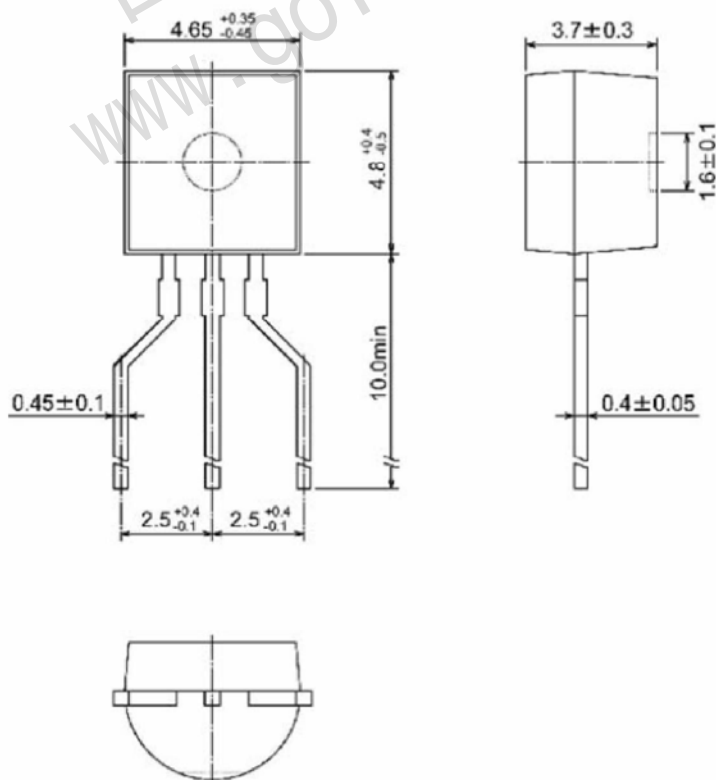


Packaging Information

SOT89-3



TO-92



四海恒通科技  
www.gofotech.com

- I The information described herein is subject to change without notice.
- I Nanjing Micro One Electronics Inc is not responsible for any problems caused by circuits or diagrams described herein whose related industrial properties, patents, or other rights belong to third parties. The application circuit examples explain typical applications of the products, and do not guarantee the success of any specific mass-production design.
- I Use of the information described herein for other purposes and/or reproduction or copying without the express permission of Nanjing Micro One Electronics Inc is strictly prohibited.
- I The products described herein cannot be used as part of any device or equipment affecting the human body, such as exercise equipment, medical equipment, security systems, gas equipment, or any apparatus installed in airplanes and other vehicles, without prior written permission of Nanjing Micro One Electronics Inc.
- I Although Nanjing Micro One Electronics Inc exerts the greatest possible effort to ensure high quality and reliability, the failure or malfunction of semiconductor products may occur. The user of these products should therefore give thorough consideration to safety design, including redundancy, fire-prevention measures, and malfunction prevention, to prevent any accidents, fires, or community damage that may ensue.