# Low power consumption, Low dropout voltage, With CE function ME6215 Series

## General Description

ME6215 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 current limiter's foldback circuit also operates as a short protect for the output current limiter and the output pin. The CE function allows the output of regulator to be turned off, resulting in greatly reduced power consumption. The ME6215 series can operate with up to 18V input.

## Features

- Highly Accurate：±2%
- Output voltage range：1.5V~5.0V
- Low power consumption：6uA(TYP.)
- Large output current：
  300mA ($V_{IN}$＝3.8V,$V_{OUT}$＝2.8V)
- Input voltage: up to 18V
- Dropout voltage：
  0.16V at 100mA and 0.32V at 200mA
- CE Pin Function : Active High
- Short-circuit Current：25mA(TYP.)
- Excellent Input Stability
- Be available to regulator and reference voltage

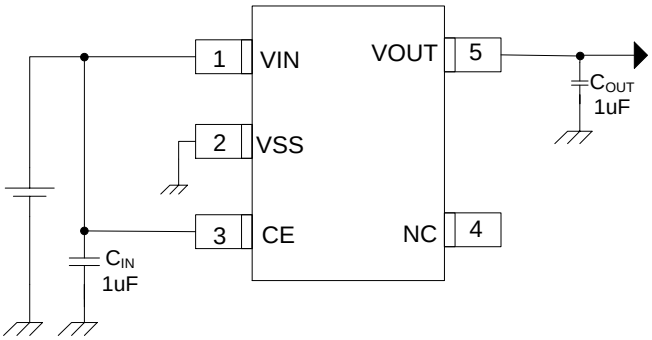
## Applications

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

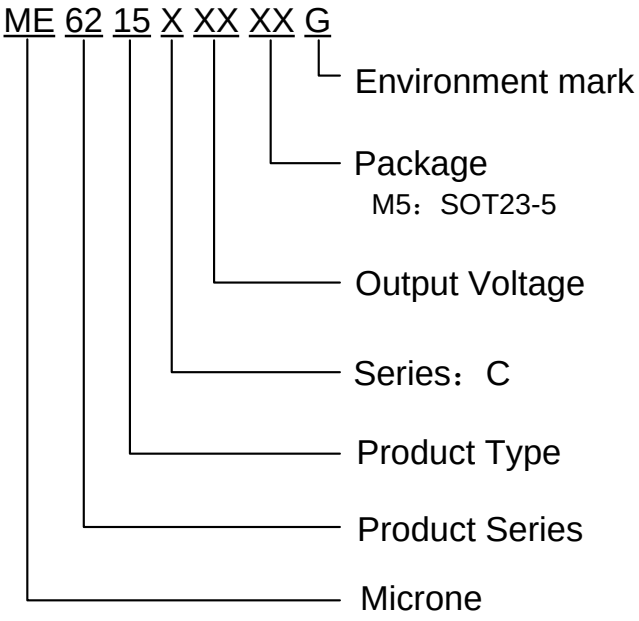
## Package

- 5-pin SOT23-5

## Typical Application



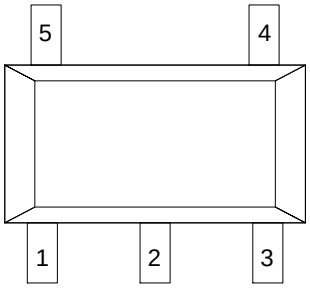

## Selection Guide




| product series | product description |
|---|---|
| ME6215C25M5G | $V_{OUT}$ =2.5V，have CE，Package:SOT23-5 |
| ME6215C28M5G | $V_{OUT}$ =2.8V，have CE，Package:SOT23-5 |
| ME6215C30M5G | $V_{OUT}$ =3.0V，have CE，Package:SOT23-5 |
| ME6215C33M5G | $V_{OUT}$ =3.3V，have CE，Package:SOT23-5 |
| ME6215C50M5G | $V_{OUT}$ =5.0V，have CE，Package:SOT23-5 |

Note：If you need other voltage and package, please contact our sales staff。

## Pin Configuration

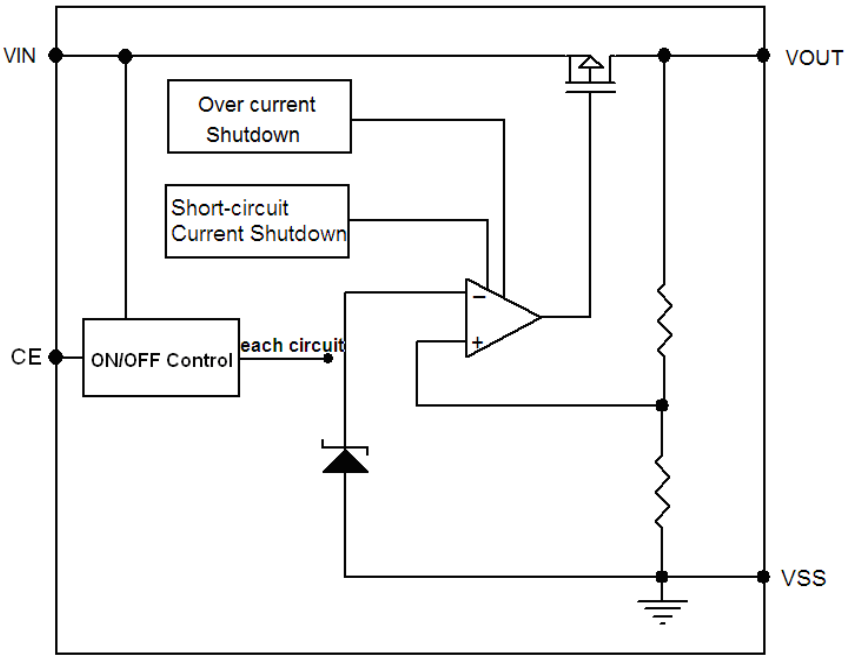



SOT23-5

## Pin Assignment

| Pin Num SOT23-5 | Symbol | Function |
|---|---|---|
| 1 | $V_{IN}$ | Power Input |
| 2 | $V_{SS}$ | Ground |
| 3 | CE | ON / OFF Control |
| 4 | NC | No Connect |
| 5 | $V_{OUT}$ | Output |

## Block Diagram



## Absolute Maximum Ratings

| Parameter | | Symbol | Ratings | Units |
|---|---|---|---|---|
| Input Voltage | | $V_{IN}$ | 18 | V |
| Output Current | | $I_{OUT}$ | 580 | mA |
| Output Voltage | | $V_{OUT}$ | Vss-0.3～$V_{IN}$ +0.3 | V |
| CE Pin Voltage | | $V_{CE}$ | Vss-0.3～$V_{IN}$ +0.3 | V |
| Power Dissipation | SOT23-5 | $P_D$ | 250 | mW |
| Operating Temperature Range | | $T_{OPR}$ | －40～＋125 | ℃ |
| Storage Temperature Range | | $T_{STG}$ | －40～＋150 | ℃ |
| Lead Temperature | | | 260℃，4sec | |

## Electrical Characteristics

($V_{IN}$= $V_{OUT}$+1V，$V_{CE}$＝$V_{IN}$ ，$C_{IN}$=$C_{OUT}$=1uF，Ta=25$^{O}$C，unless otherwise noted)

| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|
| Output Voltage | $V_{OUT}$(E) (Note 2) | $I_{OUT}$=10mA, $V_{IN}$= $V_{OUT}$+1V | X 0.98 | $V_{OUT}$ (T) (Note 1) | X 1.02 | V |
| Input Voltage | $V_{IN}$ | | | | 18 | V |
| Maximum Output Current | $I_{OUTMAX}$ | $V_{IN}$= $V_{OUT}$+1V | | 300 | | mA |
| Load Regulation | $\Delta V_{OUT}$ | $V_{IN}$= $V_{OUT}$+1V , 1mA≤$I_{OUT}$≤100mA | | 4 | | mV |
| Dropout Voltage (Note 1) | $V_{DIF1}$ | $I_{OUT}$ =100mA | | 160 | | mV |
| | $V_{DIF2}$ | $I_{OUT}$ =200mA | | 320 | | mV |
| Supply Current | $I_{SS}$ | $V_{IN}$= $V_{OUT}$+1V | | 6 | 10 | μA |
| Stand-by Current | $I_{CEL}$ | $V_{CE}$＝0V | | 0 | 1 | μA |
| Line Regulation | $\Delta V_{OUT}$ | $I_{OUT}$ =30mA $V_{OUT}$+1V ≤$V_{IN}$≤18V | | 20 | | mV |
| CE “High” Voltage | VCEH | Start up | 1.3 | | | V |
| CE “Low” Voltage | VCEL | Shut down | | | 0.8 | V |
| Short-circuit Current | $I_{SHORT}$ | $V_{IN}$= $V_{OUT}$+1V, $V_{CE}$＝$V_{IN}$, $V_{OUT}$＝0V | | 25 | 50 | mA |
| Over Current Protection | $I_{limit}$ | $V_{IN}$= $V_{OUT}$+1V | | 580 | | mA |

Note ：

1. $V_{OUT}$ (T) ： Specified Output Voltage

2.$V_{OUT}$ (E) ： Effective Output Voltage ( Ie. The output voltage when “$V_{OUT}$ (T)+1.0V”is provided at the Vin pin while maintaining a certain Iout value.)

3.$V_{DIF}$： $V_{IN1}$ –$V_{OUT}$ (E)’

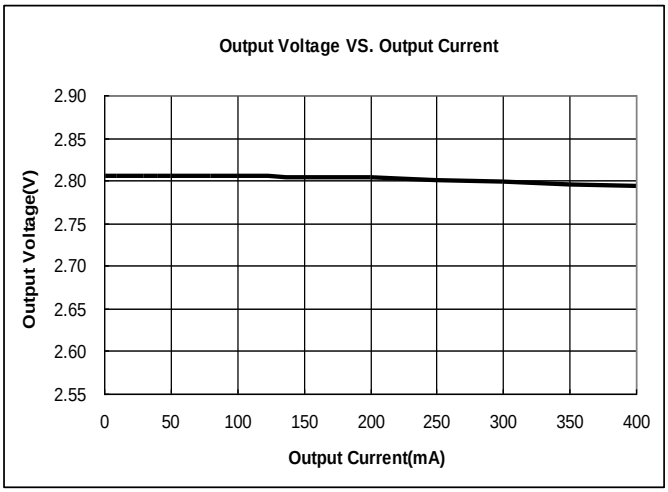
$V_{IN1}$ ： The input voltage when $V_{OUT}$(E)’ appears as input voltage is gradually decreased.

$V_{OUT}$ (E)’=A voltage equal to 98% of the output voltage whenever an amply stabilized Iout {$V_{OUT}$ (T)+1.0V} is input.

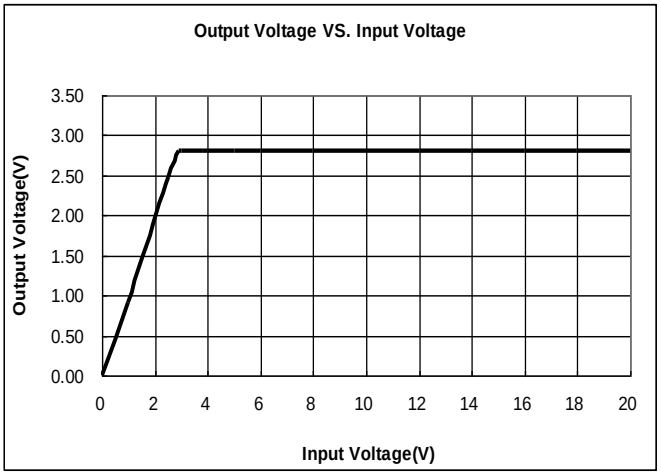
## Type Characteristics ()

## 1. ME6215C28

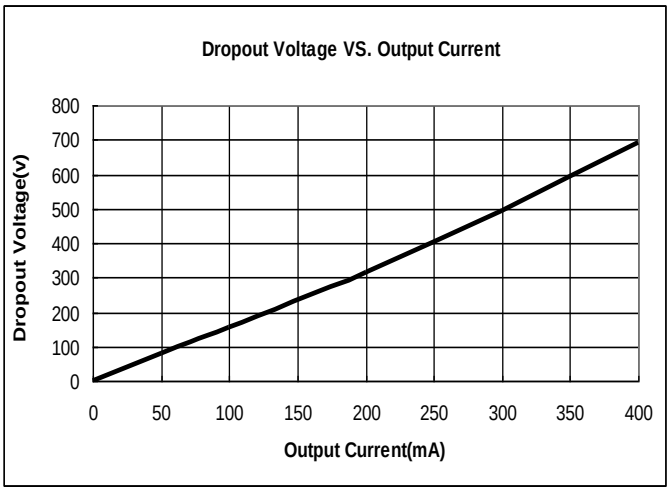
（1）Output Voltage VS. Output Current
（$V_{IN}$=$V_{OUT}$+1, **Ta = 25 °C**）



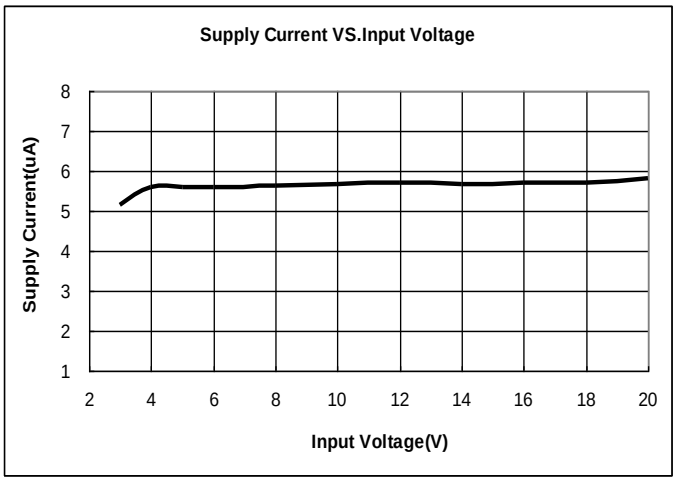

（2）Output Voltage VS. Input Voltage
（$V_{IN}$=$V_{OUT}$+1, $I_{OUT}$ =10mA **,Ta = 25 °C**）



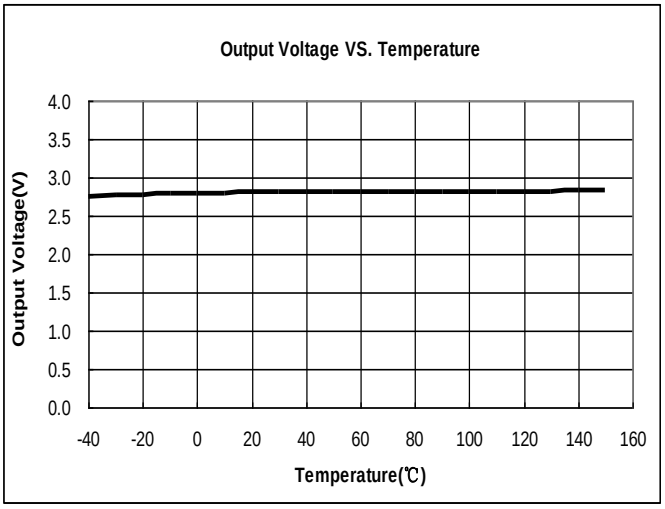

（3）Dropout Voltage VS. Output Current
（$V_{IN}$=$V_{OUT}$+1V,**Ta = 25 °C**）




（4）Supply Current VS. Input Voltage
（**Ta = 25 °C**）

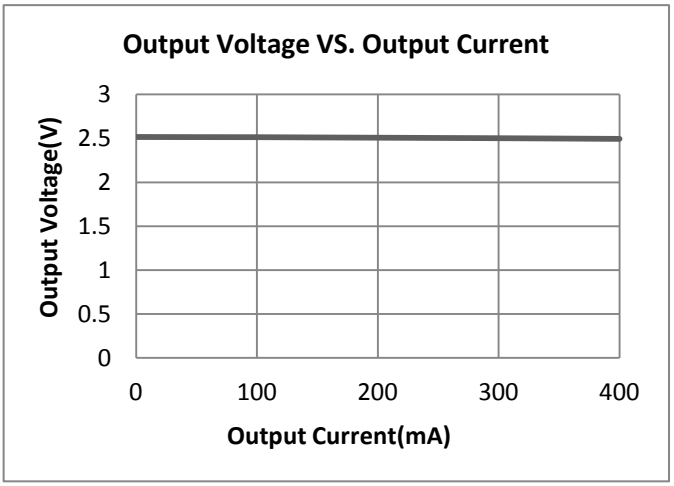



（5）Output Voltage VS. Temperature ($V_{IN}$=$V_{OUT}$+1V, $I_{OUT}$ =10mA)

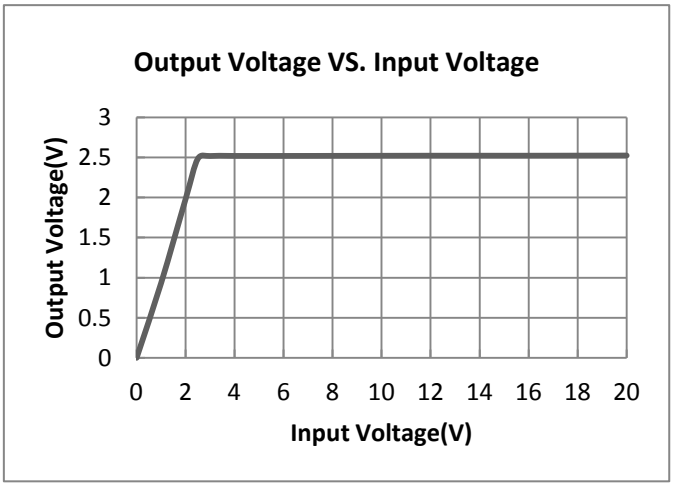


## 2. ME6215C25

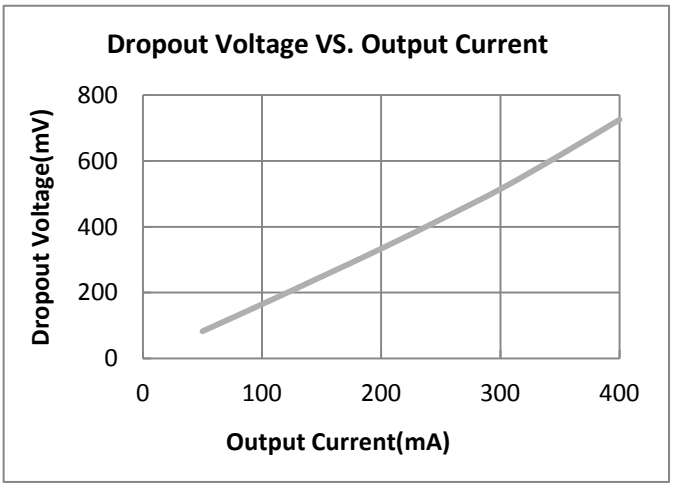
（1）Output Voltage VS. Output Current
（$V_{IN}$=$V_{OUT}$+1, **Ta = 25 °C**）



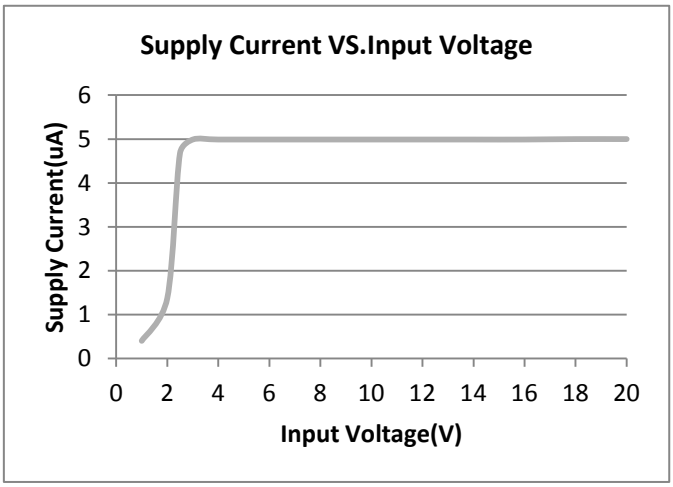

（2）Output Voltage VS. Input Voltage
（$V_{IN}$=$V_{OUT}$+1, $I_{OUT}$ =10mA **,Ta = 25 °C**）




（3）Dropout Voltage VS. Output Current
（$V_{IN}$=$V_{OUT}$+1V,**Ta = 25 °C**）

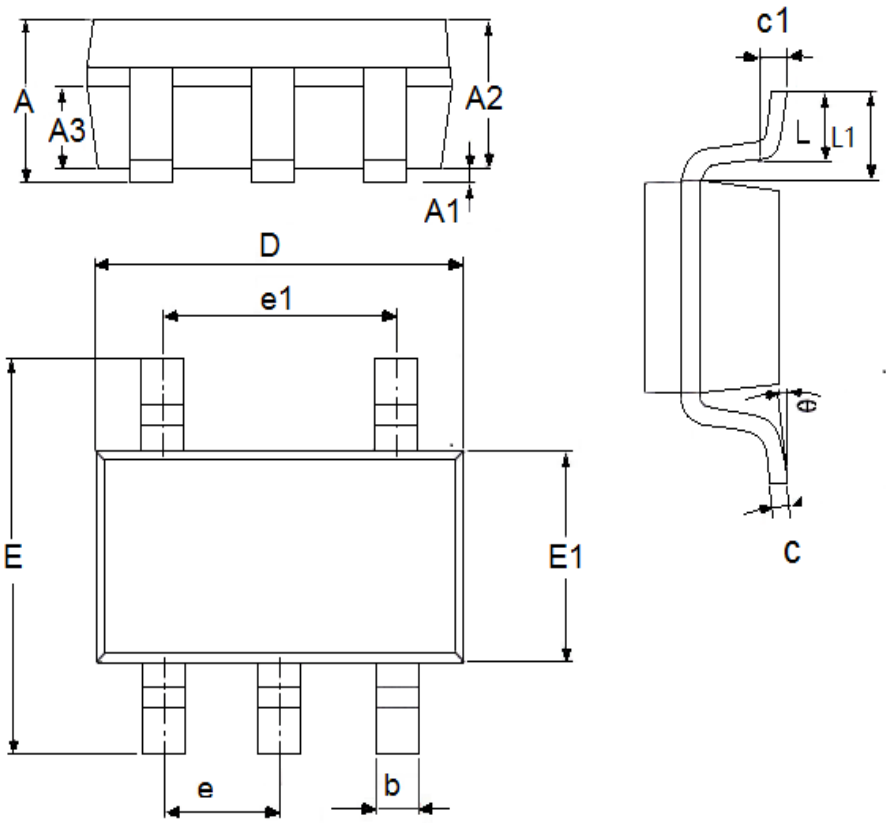



（4）Supply Current VS. Input Voltage
（**Ta = 25 °C**）



## Packaging Information

- **Packaging Type: SOT23-5**




| DIM | Millimeters | | Inches | |
|---|---|---|---|---|
| | Min | Max | Min | Max |
| A | 1.05 | 1.45 | 0.0413 | 0.0571 |
| A1 | 0 | 0.15 | 0.0000 | 0.0059 |
| A2 | 0.9 | 1.3 | 0.0354 | 0.0512 |
| A3 | 0.6 | 0.7 | 0.0236 | 0.0276 |
| b | 0.25 | 0.5 | 0.0098 | 0.0197 |
| c | 0.1 | 0.23 | 0.0039 | 0.0091 |
| D | 2.82 | 3.05 | 0.1110 | 0.1201 |
| e1 | 1.9(TYP) | | 0.0748(TYP) | |
| E | 2.6 | 3.05 | 0.1024 | 0.1201 |
| E1 | 1.5 | 1.75 | 0.0512 | 0.0689 |
| e | 0.95(TYP) | | 0.0374(TYP) | |
| L | 0.25 | 0.6 | 0.0098 | 0.0236 |
| L1 | 0.59(TYP) | | 0.0232(TYP) | |
| θ | 0 | 8° | 0.0000 | 8° |
| c1 | 0.2(TYP) | | 0.0079(TYP) | |

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