

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:  $\pm 2\%$
- Output voltage range: 1.5V~5.0V
- Low power consumption: 6 $\mu$ A(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

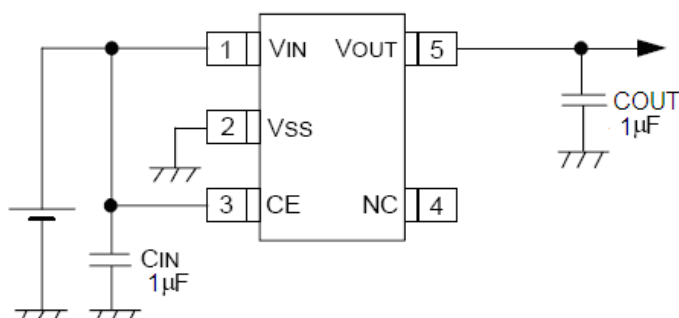
## Applications

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

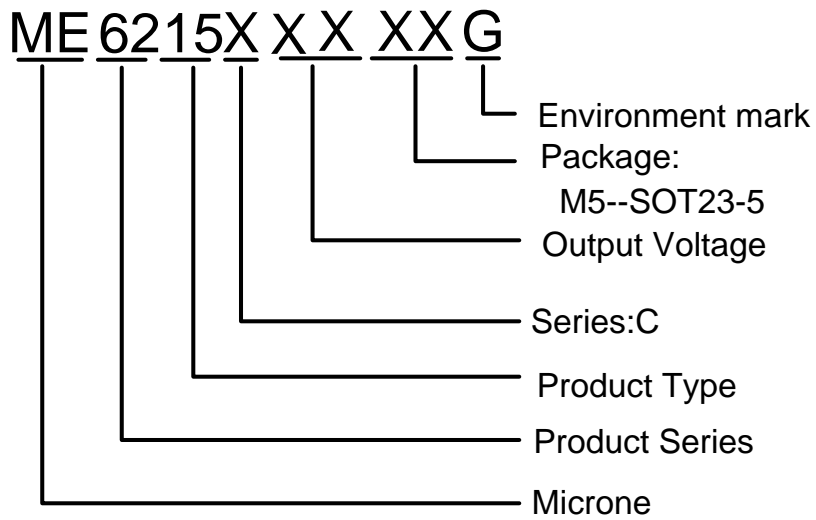
## Packages

- 5-pin SOT23-5

## Typical Application

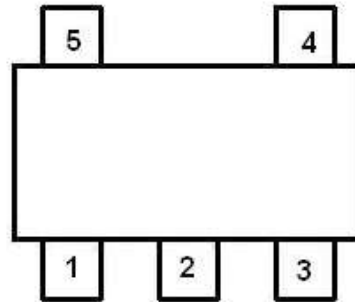


## Selection Guide



product series	product description
ME6215C28M5G	$V_{OUT} = 2.8V$
ME6215C30M5G	$V_{OUT} = 3.0V$
ME6215C33M5G	$V_{OUT} = 3.3V$

## Pin Configuration

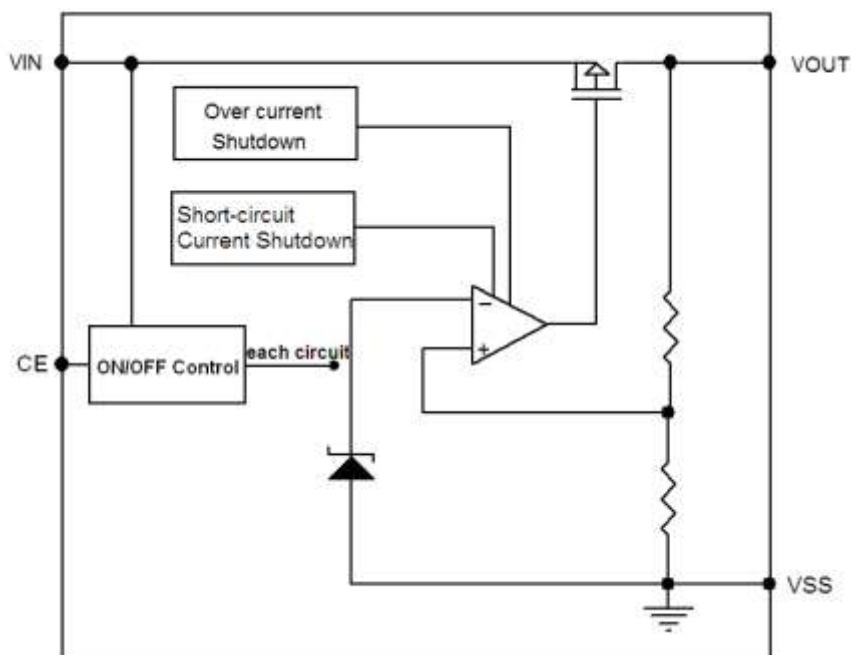


SOT23-5

## Pin Assignment

Pin Num	Symbol	Function
SOT23-5		
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	$V_{OUT}$	$V_{SS}-0.3 \sim V_{IN} +0.3$	V
CE Pin Voltage	$V_{CE}$	$V_{SS}-0.3 \sim V_{IN} +0.3$	V
Power Dissipation	SOT23-5 $P_D$	250	mW
Operating Temperature Range	$T_{OPR}$	$-40 \sim +125$	$^{\circ}C$
Storage Temperature Range	$T_{STG}$	$-40 \sim +150$	$^{\circ}C$
Lead Temperature		$260^{\circ}C, 4sec$	

## Electrical Characteristics

( $V_{IN} = V_{OUT} + 1V$ ,  $V_{CE} = V_{IN}$ ,  $C_{IN} = C_{OUT} = 1\mu F$ ,  $T_a = 25^{\circ}C$ , unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Output Voltage	$V_{OUT(E)}$ (Note 2)	$I_{OUT} = 10mA$ , $V_{IN} = V_{OUT} + 1V$	X 0.98	$V_{OUT(T)}$ (Note 1)	X 1.02	V
Input Voltage	$V_{IN}$		2.8		18	V
Maximum Output Current	$I_{OUTMAX}$	$V_{IN} = V_{OUT} + 1V$		300	350	mA
Load Regulation	$\Delta V_{OUT}$	$V_{IN} = V_{OUT} + 1V$ , $1mA \leq I_{OUT} \leq 100mA$		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		$\mu A$
Stand-by Current	$I_{CEL}$	$V_{CE} = 0V$		0		$\mu A$
Line Regulation	$\Delta V_{OUT}$	$I_{OUT} = 30mA$ $V_{OUT} + 1V \leq V_{IN} \leq 18V$		30		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	$I_{limit}$	$V_{IN} = 3.8V$		580	750	mA

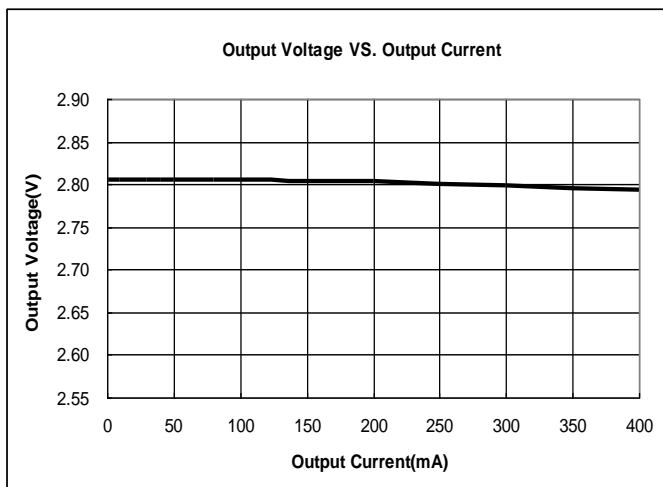
Note :

- $V_{OUT(T)}$  : Specified Output Voltage
- $V_{OUT(E)}$  : Effective Output Voltage ( i.e. The output voltage when " $V_{OUT(T)} + 1.0V$ " is provided at the 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 ( $V_{OUT(T)} + 1.0V$ ) is input.

## Type Characteristics ( ME6215C28 )

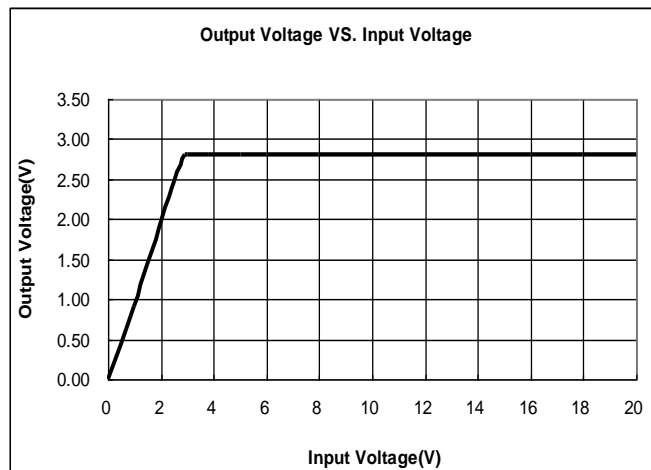
(1) Output Voltage VS. Output Current

( $V_{IN}=V_{OUT}+1$ ,  $T_a = 25\text{ }^\circ\text{C}$ )



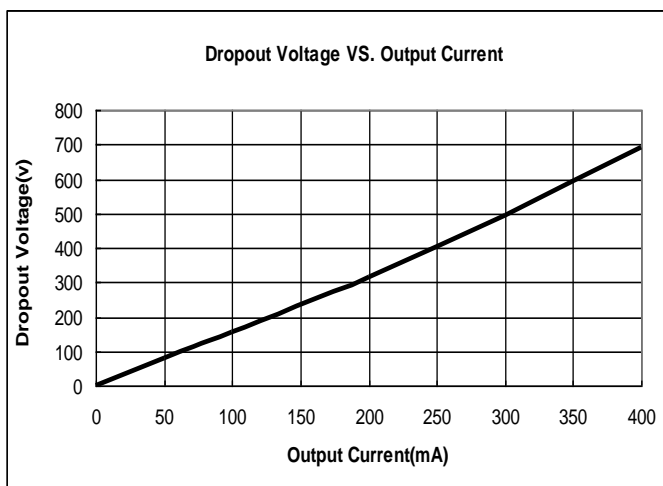
(2) Output Voltage VS. Input Voltage

( $V_{IN}=V_{OUT}+1$ ,  $I_{OUT} = 10\text{mA}$ ,  $T_a = 25\text{ }^\circ\text{C}$ )



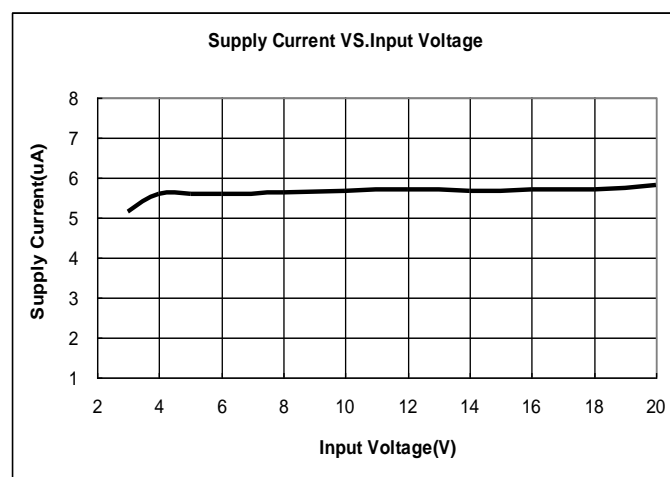
(3) Dropout Voltage VS. Output Current

( $V_{IN}=V_{OUT}+1\text{V}$ ,  $T_a = 25\text{ }^\circ\text{C}$ )

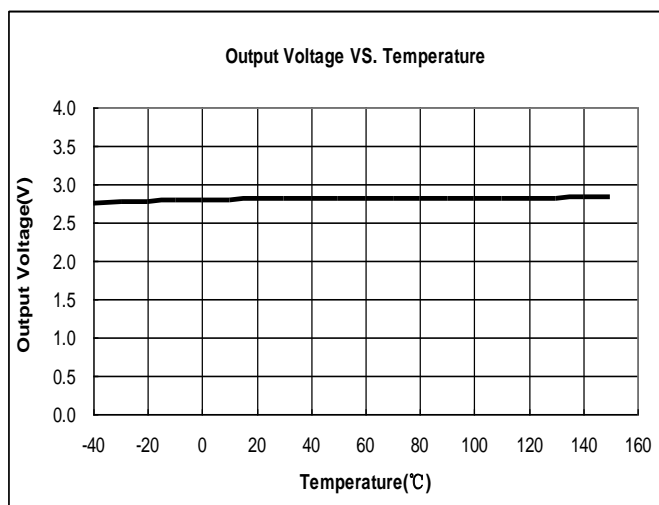


(4) Supply Current VS. Input Voltage

( $T_a = 25\text{ }^\circ\text{C}$ )

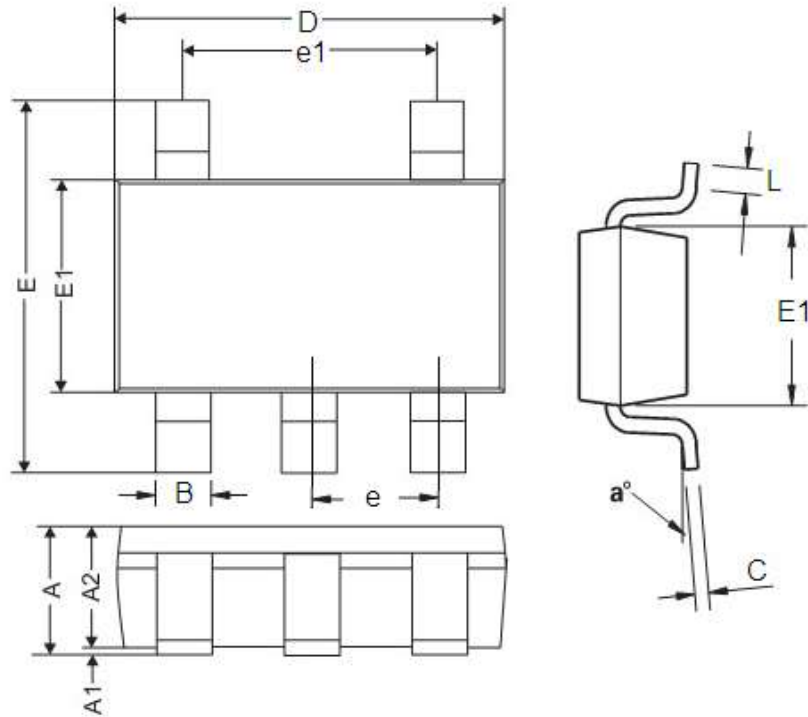


(5) Output Voltage VS. Temperature ( $V_{IN}=V_{OUT}+1\text{V}$ ,  $I_{OUT} = 10\text{mA}$ )



## Packaging Information

Packaging Type: SOT23-5



DIM	Millimeters		Inches	
	Min	Max	Min	Max
A	0.9	1.45	0.0354	0.0570
A1	0	0.15	0	0.0059
A2	0.9	1.3	0.0354	0.0511
B	0.2	0.5	0.0078	0.0196
C	0.09	0.26	0.0035	0.0102
D	2.7	3.10	0.1062	0.1220
E	2.2	3.2	0.0866	0.1181
E1	1.30	1.80	0.0511	0.0708
e	0.95REF		0.0374REF	
e1	1.90REF		0.0748REF	
L	0.10	0.60	0.0039	0.0236
a°	0°	30°	0°	30°

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