Low power consumption, Low dropout voltage, With CE function GX6215 Series

General Description

GX6215 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 GX6215 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

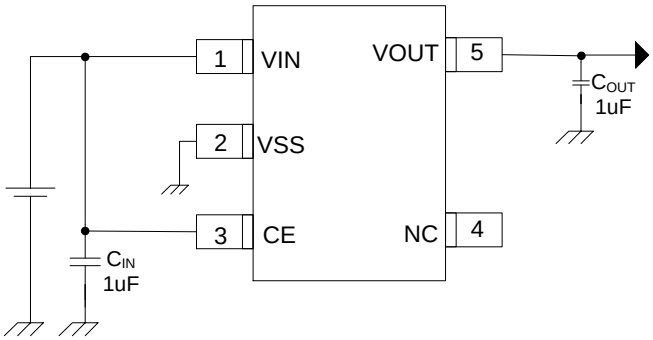
Applications

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

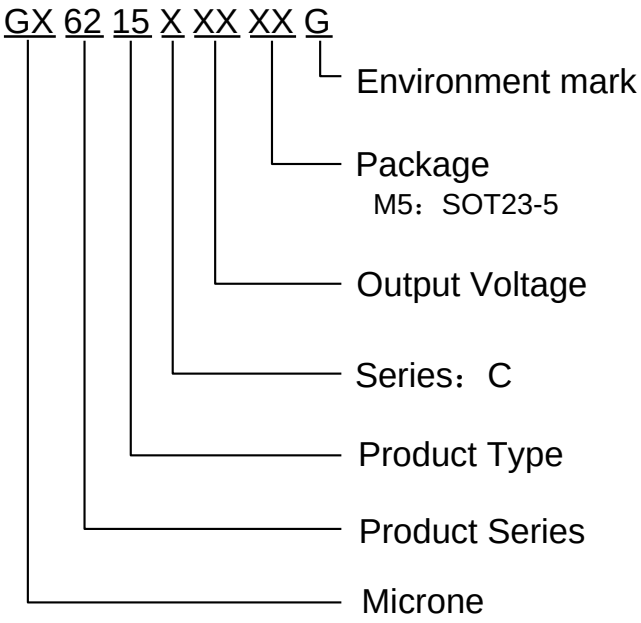
Package

- 5-pin SOT23-5

Typical Application



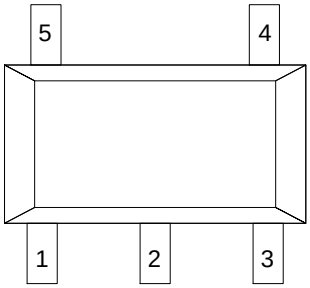
Selection Guide



product series	product description
GX6215C25M5G	V_{OUT} =2.5V，have CE，Package:SOT23-5
GX6215C28M5G	V_{OUT} =2.8V，have CE，Package:SOT23-5
GX6215C30M5G	V_{OUT} =3.0V，have CE，Package:SOT23-5
GX6215C33M5G	V_{OUT} =3.3V，have CE，Package:SOT23-5
GX6215C36M5G	V_{OUT} =3.6V，have CE，Package:SOT23-5
GX6215C50M5G	V_{OUT} =5.0V，have CE，Package:SOT23-5

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

Pin Configuration

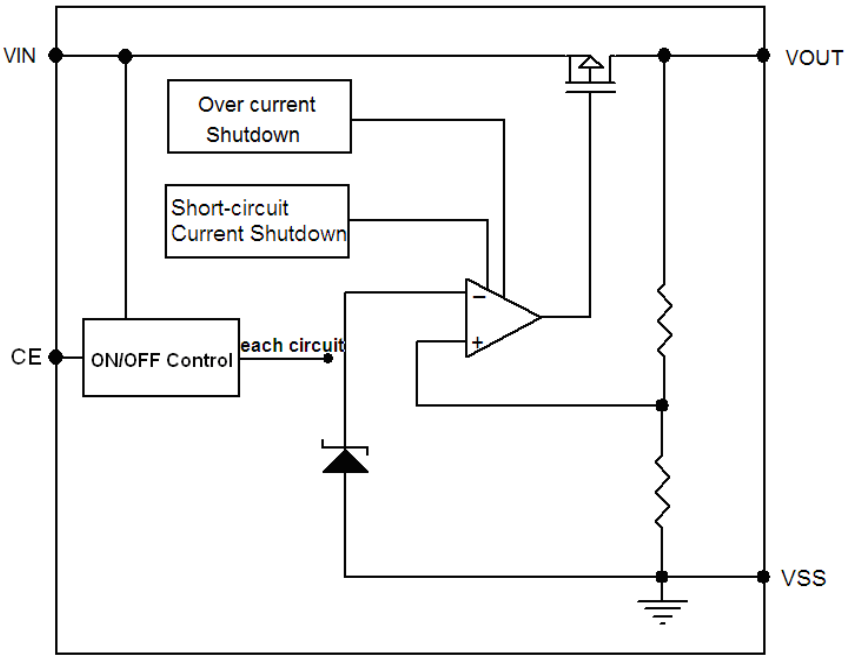


SOT23-5

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
Thermal resistance (Junction to air)	θ_{JA}	210	℃/W
Power Dissipation	P_D	0.6	W
Operating Temperature Range	T_{OPR}	－40～＋85	℃
Storage Temperature Range	T_{STG}	－55～＋150	℃
Maximum junction temperature	T_J	－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	ΔV_{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	ΔV_{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)’

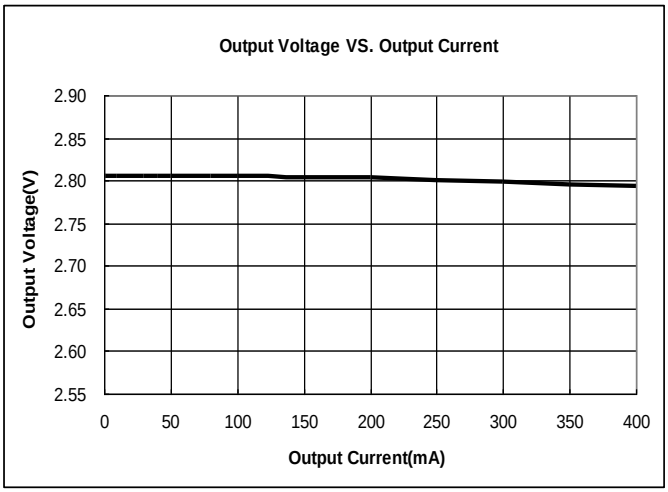
V_{IN1} ： The input voltage when V_{OUT}(E)’ appears as input voltage is gradually decreased.

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

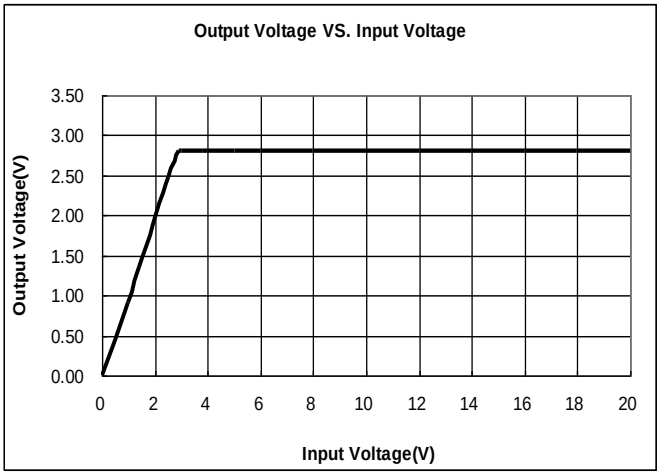
Type Characteristics

1. GX6215C28

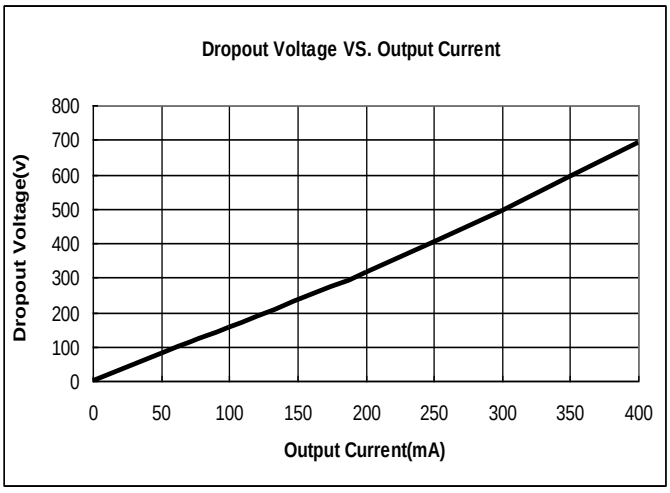
（1）Output Voltage VS. Output Current
（V_{IN}=V_{OUT}+1, **Ta = 25 °C**）



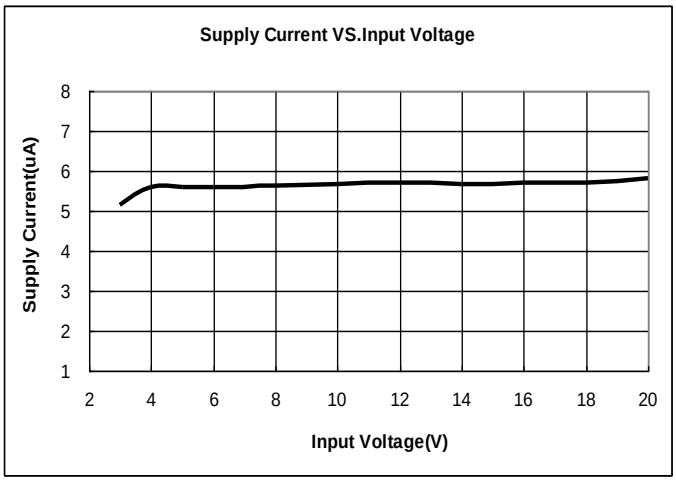
（2）Output Voltage VS. Input Voltage
（V_{IN}=V_{OUT}+1, I_{OUT} =10mA **,Ta = 25 °C**）



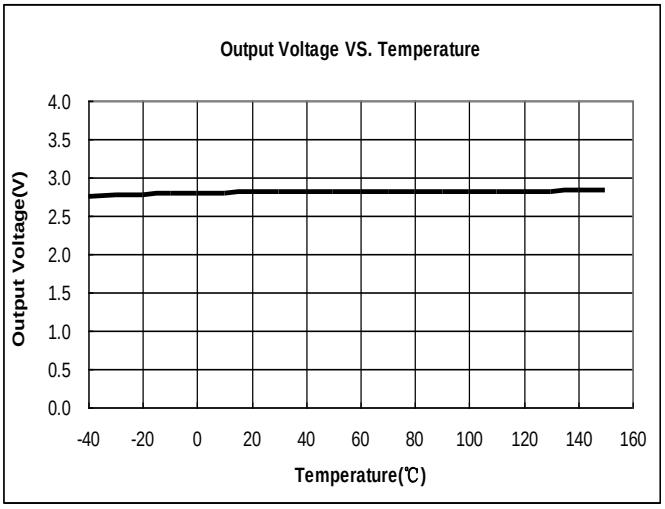
（3）Dropout Voltage VS. Output Current
（V_{IN}=V_{OUT}+1V,**Ta = 25 °C**）



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

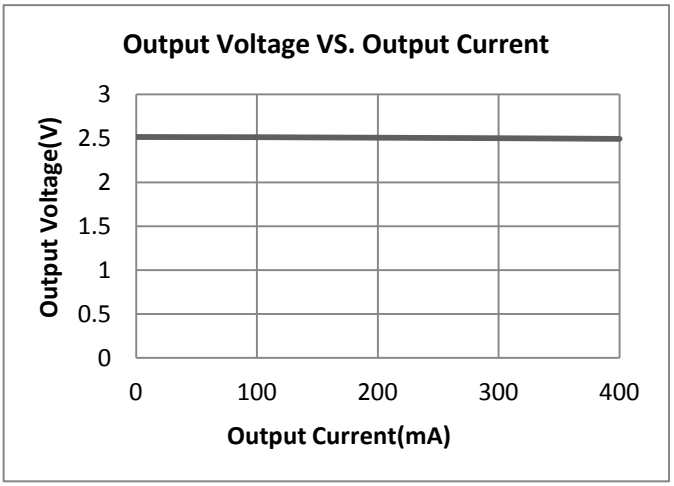


（5）Output Voltage VS. Temperature (V_{IN}=V_{OUT}+1V, I_{OUT} =10mA)

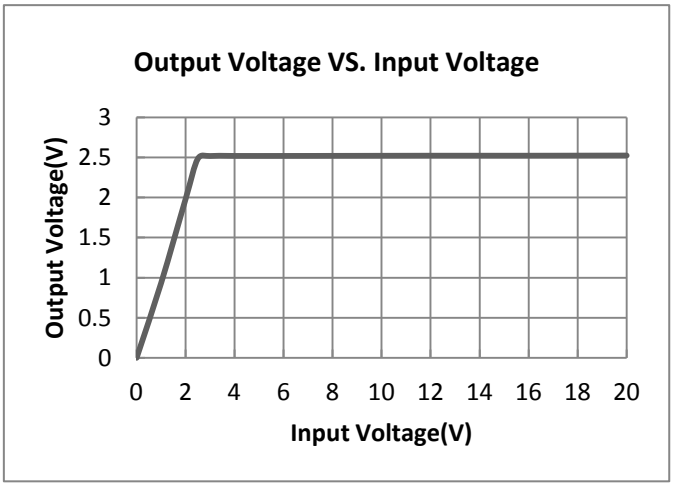


2. GX6215C25

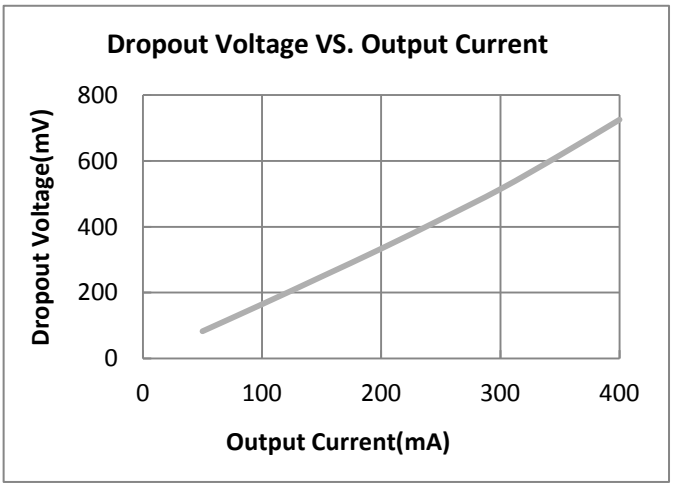
（1）Output Voltage VS. Output Current
（V_{IN}=V_{OUT}+1, **Ta = 25 °C**）



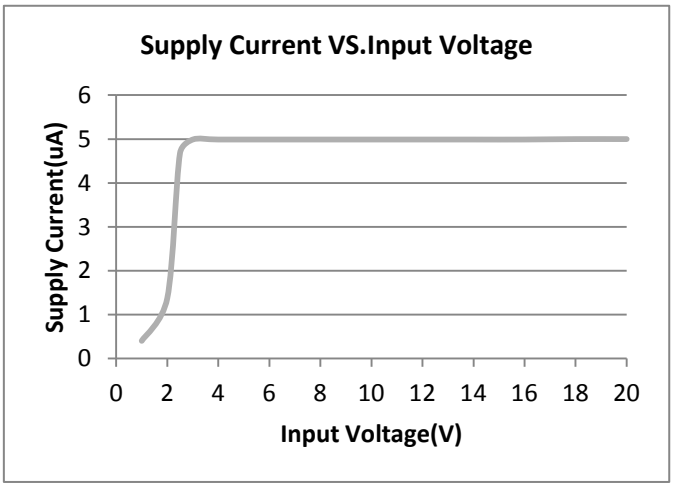
（2）Output Voltage VS. Input Voltage
（V_{IN}=V_{OUT}+1, I_{OUT} =10mA **,Ta = 25 °C**）



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

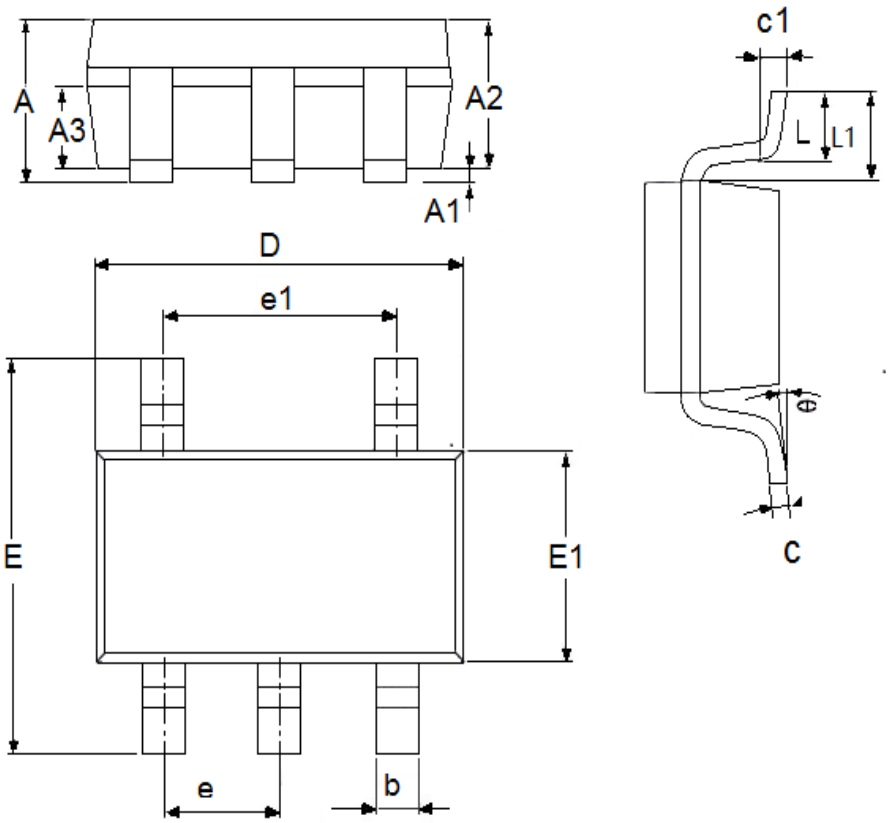


（4）Supply Current VS. Input Voltage
（**Ta = 25 °C**）



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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