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XC6210B Series

800mA,25uA, Higt PSRR Voltage Regulator

www.sot23.com.tw

General Descri tion

The XC6210B Series are a group of voltage regulators manufactured by CMOS technology with high ripple rejection, ultra-fast transient and low dropout voltage, which large output currents even when the difference of the input-output voltage is small. Each of the XC6210B of a high-precision voltage reference, error correction circuit, and a current limited output driver. Thus the series very suitable for the battery-powered equipments, wireless communication applications, industry equipments and so on.

Features

- 25μA Ground Current at no Load
- ±2% Output Accuracy
- 800mA Output Current
- Wide Operating Input Voltage Range: 1.2V to 5.5V
- Dropout Voltage: 0.45V at 800mA/ V_{OUT} 3.3V
- Support Fixed Output Voltage 1.2V, 1.5V, 1.6V, 1.8V, 2.5V, 2.8V, 3.0V, 3.3V ,3.6V
- Stable with Ceramic or Tantalum Capacitor
- Current Limit Protection
  Over Temperature Protection
- SOT23-5 Packages

Applications

- Battery powered systems
- Portable instrumentations
- PC peripherals
- CD/DVD-ROM, CD/RW
- Wireless devices
- Battery charger

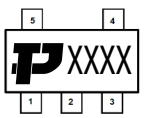
Ordering Information

XC6210B332MR

MR:SOT23-5Package

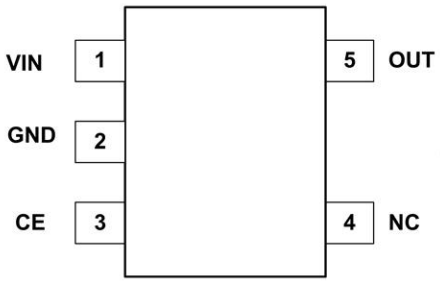
Output voltage: 12=1.2V
15=1.5V
18=1.8V
30=3.0V
33=3.3V
36=3.6V

Marking Information



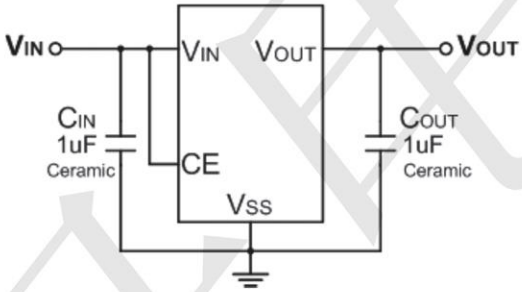
: Logo
XXXX: Marking ID

PIN CONFIGURATION



SOT23-5

Typical Application Circuit



ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNITS
Input Voltage	V_{IN}	V_{SS}-0.3~V_{SS}+7	V
Output Current	I_{OUT}	1000	mA
Output Voltage	V_{OUT}	V_{SS}-0.3~V_{IN}+0.3	V
Power Dissipation SOT23-5	Pd	250	mW
Operating Temperature	T_{opr}	-40~+85	℃
Storage Temperature	T_{stg}	-40~+125	℃
Soldering Temperature & Time	T_{solder}	260℃, 10s	

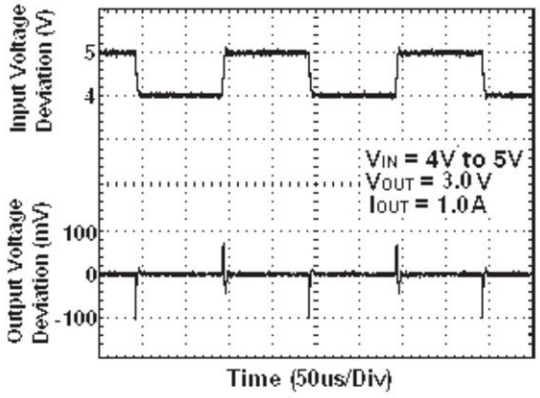
Electrical Characteristics (T_A=25 C unless otherwise noted)

(V_{IN}=V_{OUT}+1V,C_{IN}=C_{OUT}=4.7μF, Ta=25℃℃)

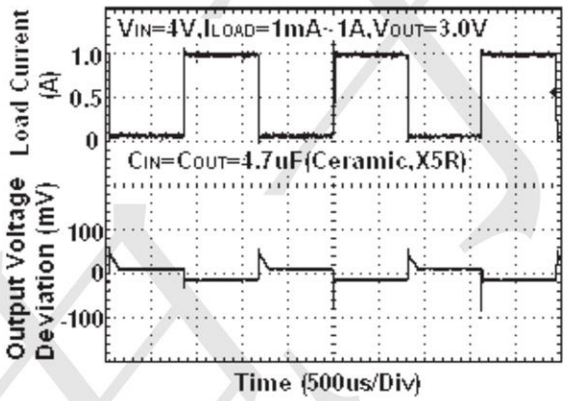
PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Output Voltage	V_{OUT}(E) (Note 2)	I_{OUT}=100mA	V_{OUT} *0.98	V_{OUT} (Note 1)	V_{OUT} *1.02	V
Supply Current	I_{SS}				25	μA
Shutdown Current	I_{SHDN}	V_{CE}=V_{SS}		0.1	1.0	μA
Output Current	I_{OUT}	—		800		mA
Dropout Voltage (Note 3)	V_{dif1}	I_{OUT} =300mA		150		mV
	V_{dif2}	I_{OUT} =800mA		400		mV
Load Regulation	ΔV_{OUT}	V_{IN}= V_{OUT} +1V, 1mA≤I_{OUT}≤1.0A		30		mV
Line Regulation	$\frac{\Delta V_{OUT}}{\Delta V_{IN} * V_{OUT}}$	I_{OUT} =100mA V_{OUT} +1V≤V_{IN}≤6V		0.02	0.2	%/V
Output Voltage Temperature Characteristics	$\frac{\Delta V_{OUT}}{\Delta T * V_{OUT}}$	I_{OUT} =100mA -40℃≤T≤+85℃		50		ppm/℃
Short Current	I_{Short}	V_{OUT} =V_{SS}		200		mA
Input Voltage	V_{IN}	—	2.0		6.0	V
Power Supply Rejection Rate 1KHz	PSRR	I_{OUT}=100mA		70		dB
Power Supply Rejection Rate 10KHz	PSRR	I_{OUT}=100mA		50		dB
CE "High" Voltage	V_{CE}"H		0.6			V
CE "Low" Voltage	V_{CE}"L"				0.3	V
Thermal Shutdown Temperature	T_{SD}			150		℃
Thermal Shutdown Temperature Hysteresis	ΔT_{SD}			30		℃

Typical Characteristics

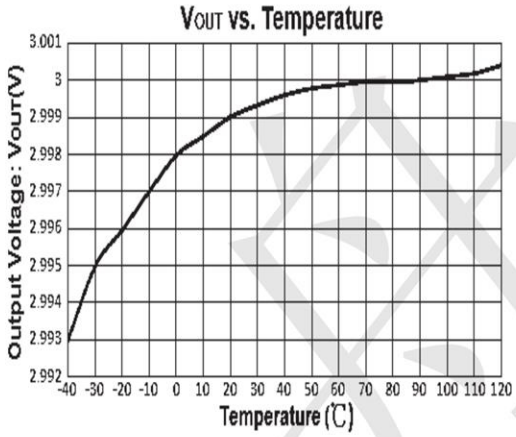
（1）Input Transient Response



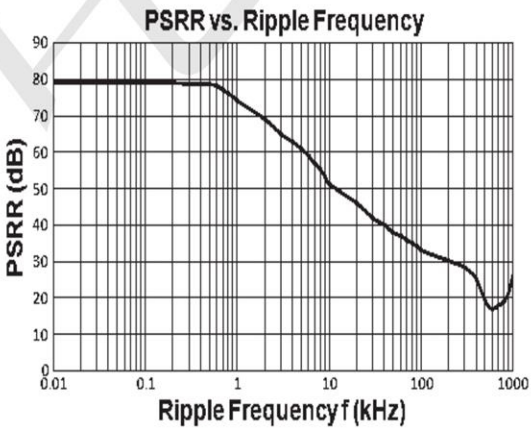
（2）Load Transient Response



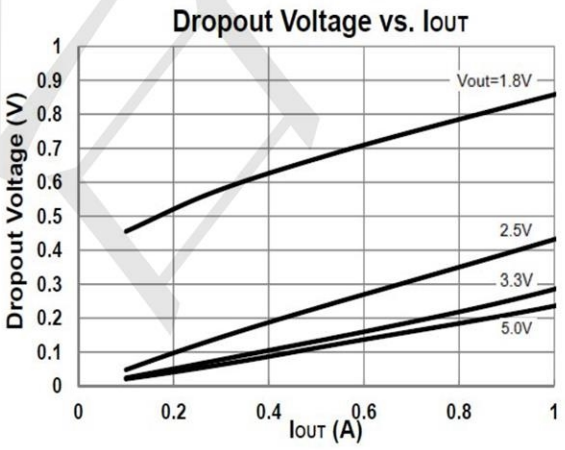
（3）Output Voltage vs. Temperature



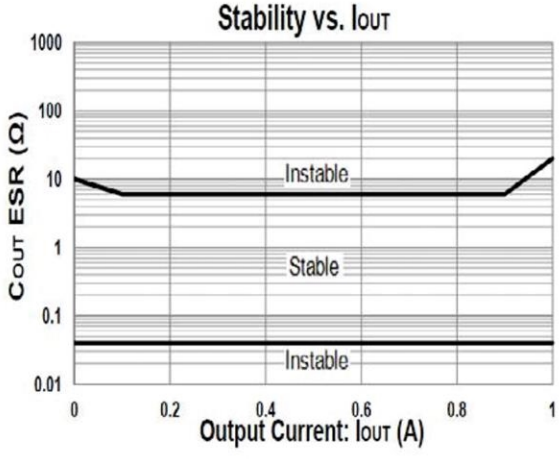
（4）Power Supply Rejection Ratio



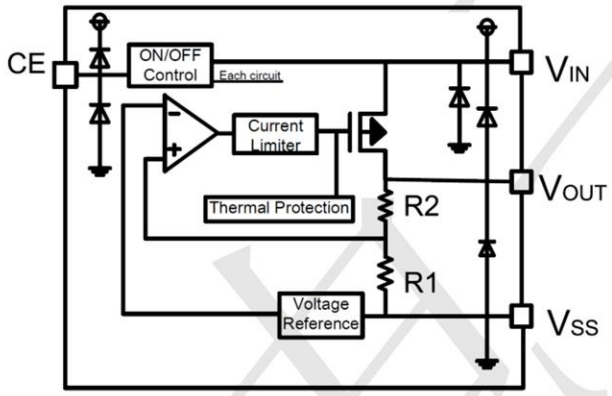
（5）Dropout Voltage vs. Output Current



（6）Region of Stable C_{OUT} ESR vs. Load

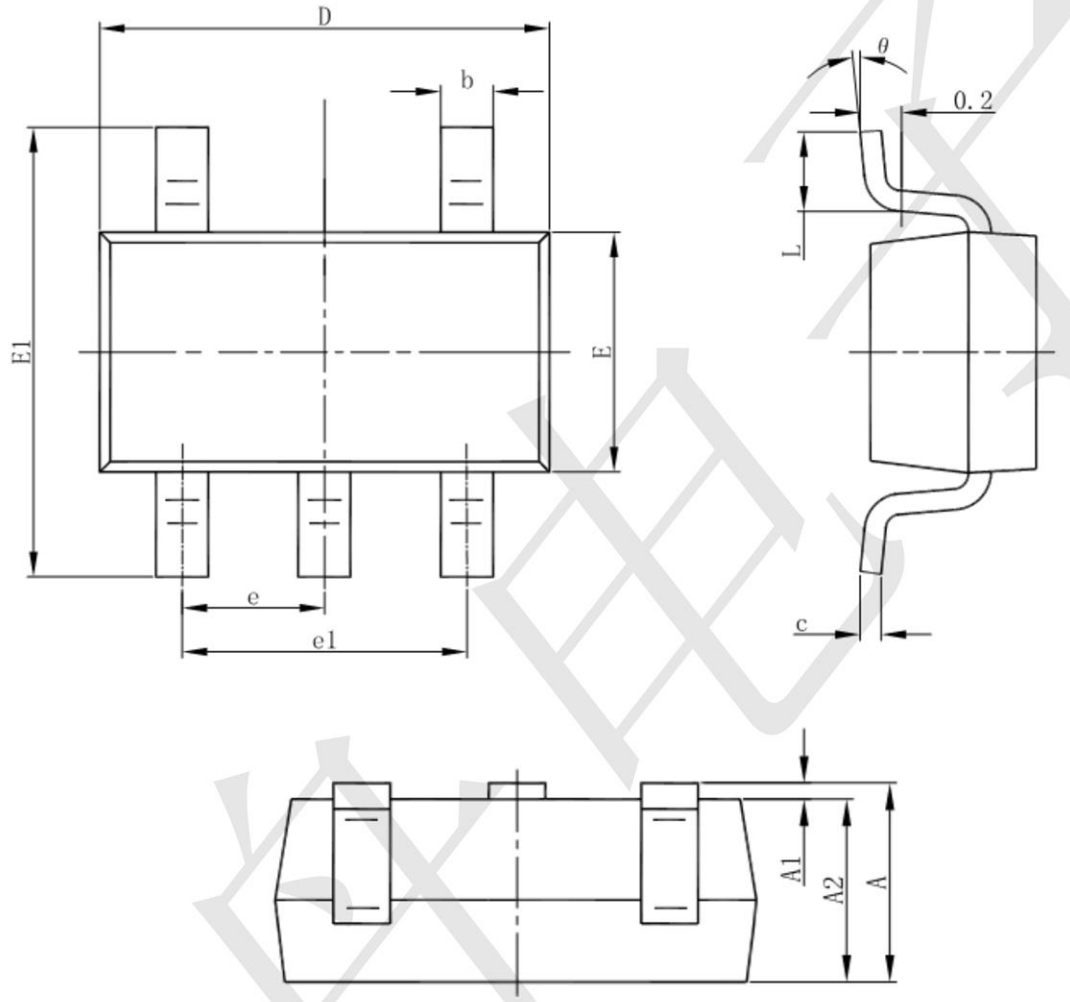


BLOCK DIAGRAM



Package informantion

SOT23-5



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

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