

## General Description

The TP6217C 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 TP6217C 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

- 25 $\mu$ A Ground Current at no Load
- $\pm 2\%$  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

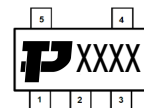
## Ordering Information

### TP6217C33M5G

M5G: SOT23-5 Package

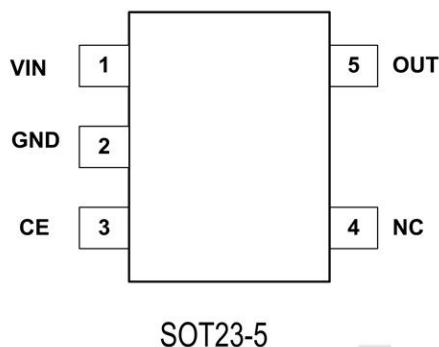
Output voltage: 12=1.2V  
15=1.5V  
18=1.8V  
30=3.0V  
33=3.3V  
36=3.6V

## Marking Information

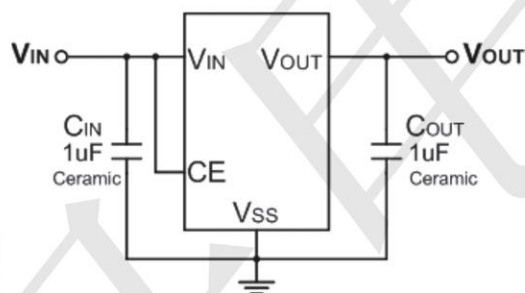


**P**: Logo  
XXX: Marking ID

## PIN CONFIGURATION



## Typical Application Circuit



## ABSOLUTE MAXIMUM RATINGS

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

**Electrical Characteristics** ( $T_A=25\text{ C}$  unless otherwise noted)

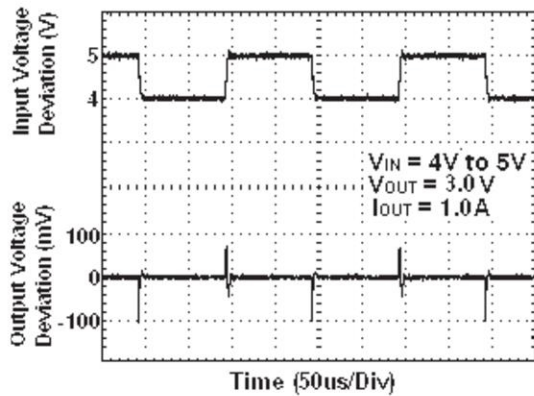
( $V_{IN}=V_{OUT}+1V, C_{IN}=C_{OUT}=4.7\mu F, T_a=25^\circ\text{C}$ )

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

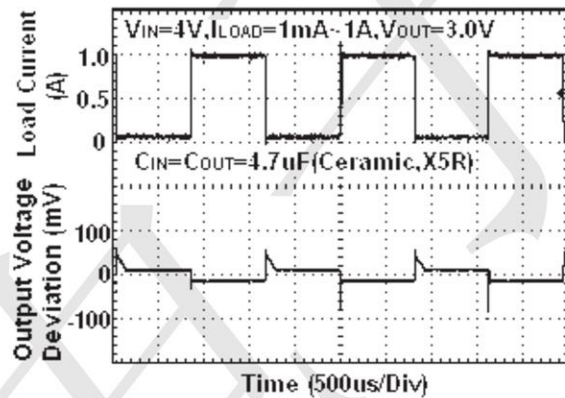


### Typical Characteristics

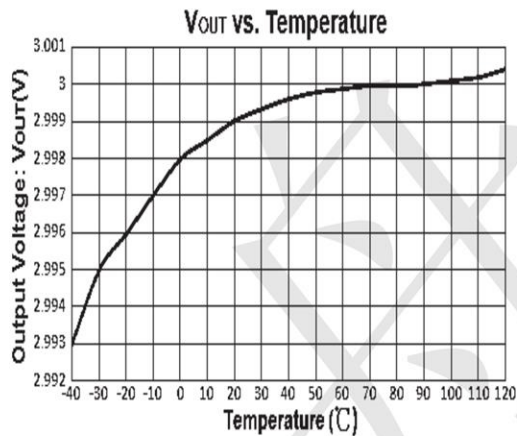
(1) Input Transient Response



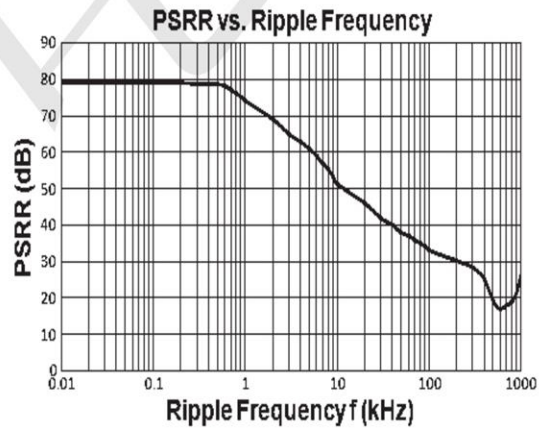
(2) Load Transient Response



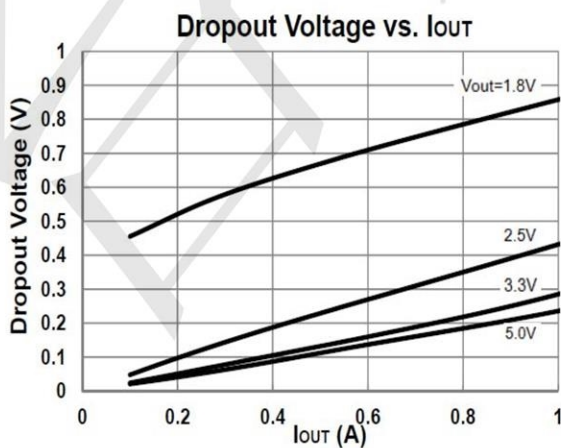
(3) Output Voltage vs. Temperature



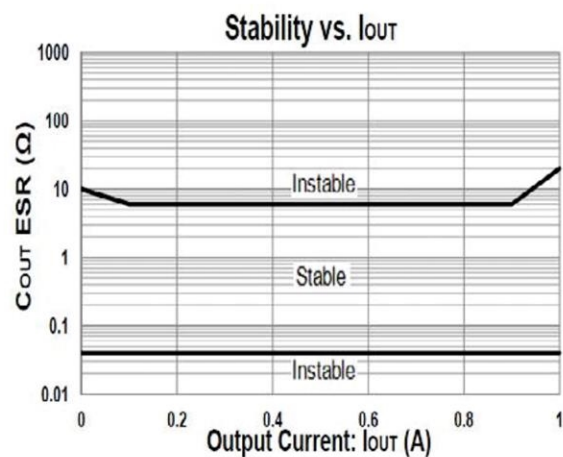
(4) Power Supply Rejection Ratio



(5) Dropout Voltage vs. Output Current



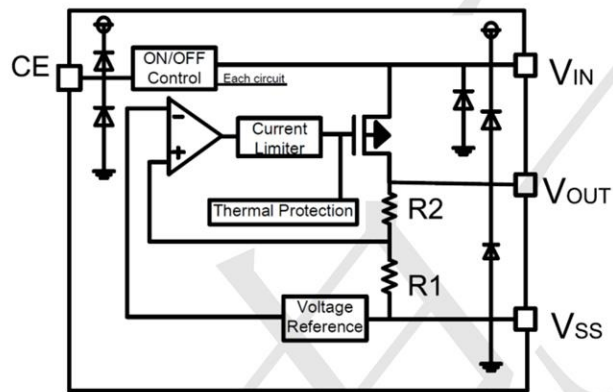
(6) Region of Stable  $C_{OUT}$  ESR vs. Load







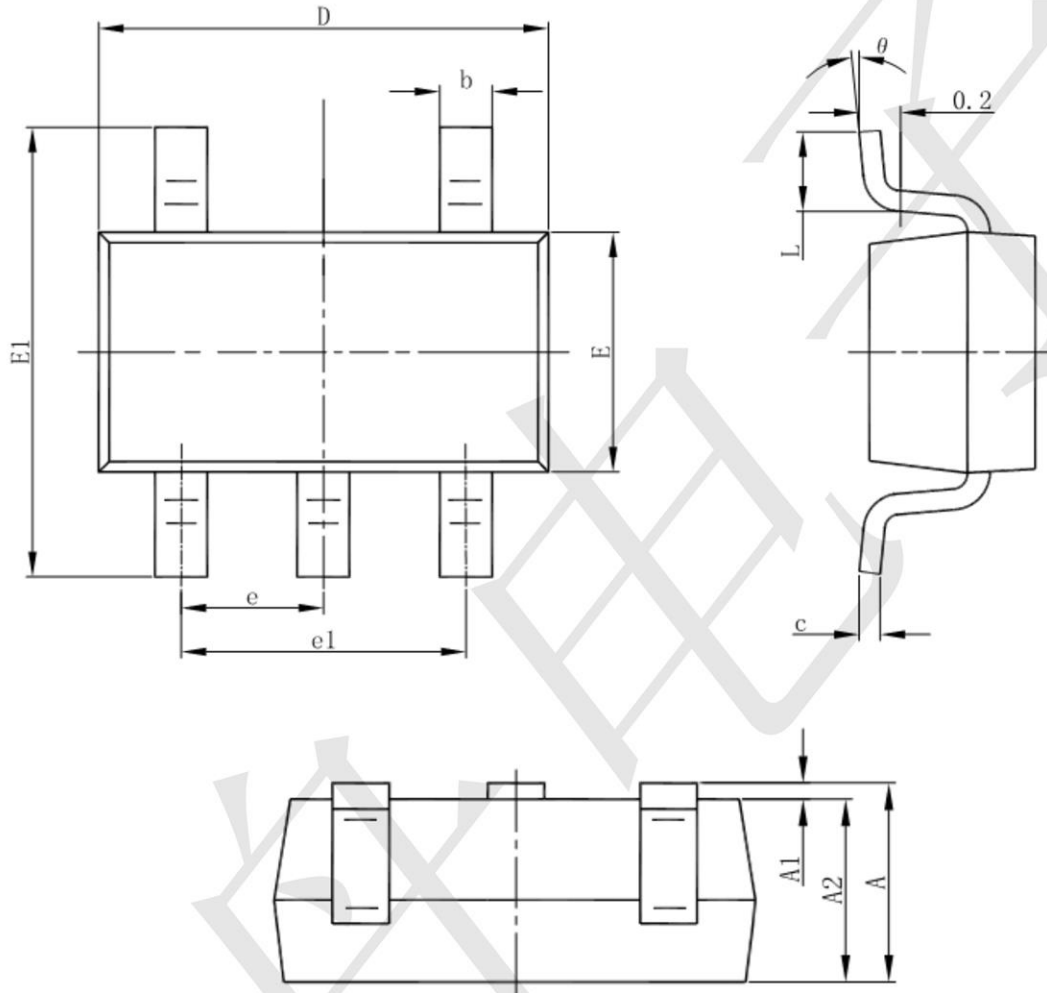
**BLOCK DIAGRAM**





**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
theta	0°	8°	0°	8°

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Linear Voltage Regulators](#) category:*

*Click to view products by [TECH PUBLIC](#) manufacturer:*

Other Similar products are found below :

[LV56831P-E](#) [LV5684PVD-XH](#) [MCDTSA6-2R](#) [L7815ACV-DG](#) [PQ3DZ53U](#) [LV56801P-E](#) [TLE42794G](#) [L78L05CZ/1SX](#) [L78LR05DL-MA-E](#) [636416C](#) [714954EB](#) [BA033LBSG2-TR](#) [LV5680P-E](#) [L78M15CV-DG](#) [L79M05T-E](#) [TLS202A1MBVHTSA1](#) [L78LR05D-MA-E](#) [NCV317MBTG](#) [NTE7227](#) [LV5680NPVC-XH](#) [LT1054CN8](#) [MP2018GZD-5-Z](#) [MP2018GZD-33-Z](#) [MIC5281-3.3YMM](#) [MC78L06BP-AP](#) [TA48LS05F\(TE85L,F\)](#) [TA78L12F\(TE12L,F\)](#) [TC47BR5003ECT](#) [TCR2LN12,LF\(S](#) [TCR2LN28,LF\(S](#) [TCR2LN30,LF\(S](#) [TCR3DF295,LM\(CT](#) [TCR3DF40,LM\(CT](#) [BA178M20CP-E2](#) [L78M12ABDT](#) [LM7812SX/NOPB](#) [LR645N3-G-P003](#) [LR645N3-G-P013](#) [ZXTR2005P5-13](#) [SCD7812BTG](#) [TCR3DF335,LM\(CT](#) [ZXTR2012K-13](#) [TLE42994E V33](#) [ZXTR2008K-13](#) [ZXTR2005K-13](#) [L88R05DL-E](#) [ADP3300ARTZ-2.7RL7](#) [LM120K-15/883](#) [IFX54441LDVXUMA1](#) [LM317D2T-TR](#)