



TX78XX

<http://www.txsemi.com>

Features

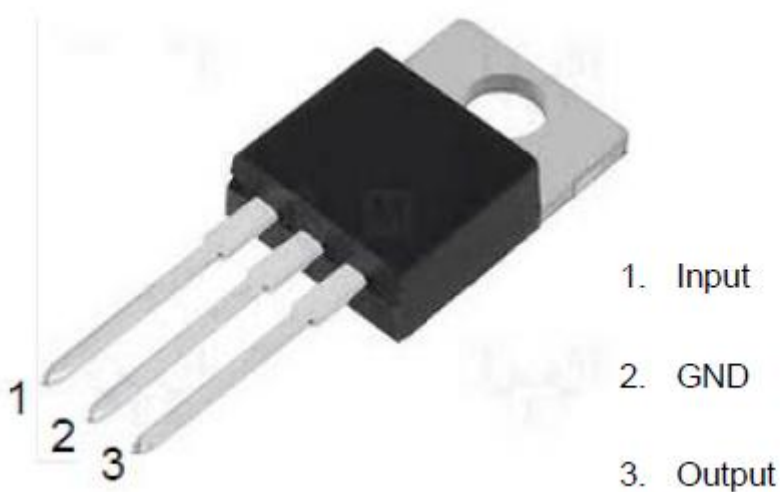
- Output Current of 1.2A
- Thermal Overload Protection
- Short Circuit Protection
- Output transistor safe area protection
- No external components
- Package: TO220
- Output voltage accuracy: tolerance $\pm 5\%$

General Description

TX78XX is three-terminal positive regulators. One of these regulators can deliver up to 1.5A of output current. The internal limiting and thermal-shutdown features of the regulator make them essentially immune to overload. When used as a

replacement for a zener diode-resistor Combination, an effective improvement in output impedance can be obtained, together with lower quiescent current.

Pin Configuration





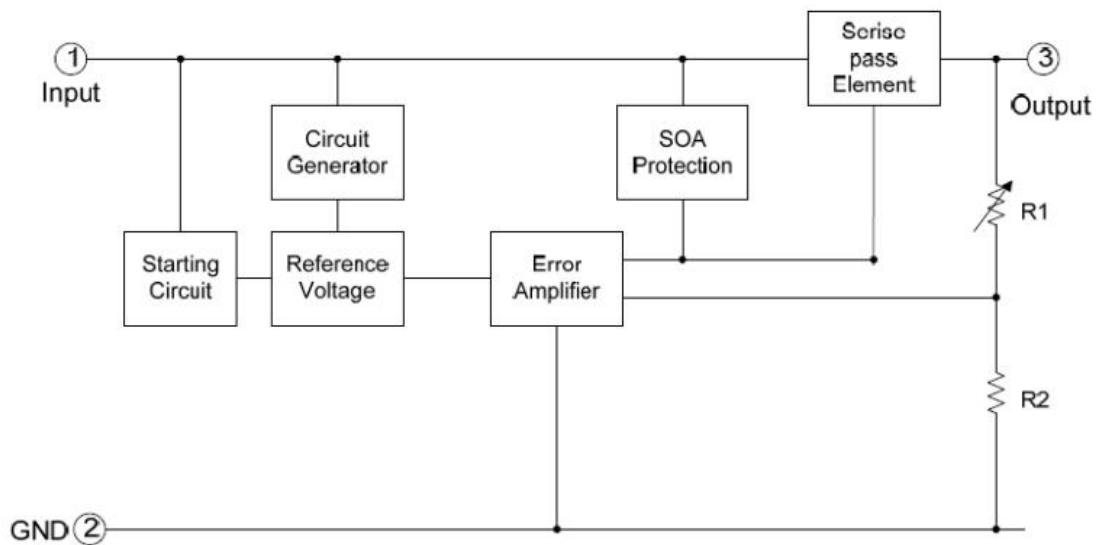
TX78XX

<http://www.txsemi.com>

Selection Table

Part No.	Output Voltage	Package	Marking
TX7805	5.0V	TO220	
TX7806	6.0V		
TX7808	8.0V		
TX7809	9.0V		
TX7812	12V		

Block Diagram



Absolute Maximum Ratings (Ta=25°C)

Parameter	Rating	Unit
Input supply voltage: VIN	40	V
MAX. Output current:Iout	1200	mA
MAX Power:Pmax	1.5	W
Maximum junction temperature:Tj	-25~125	°C
Storage temperature:Tstr	-55~125	°C
Soldering temperature and time	+260(Recommended 10S)	°C

Note: The absolute maximum ratings are rated values exceeding which the product could suffer physical damage. These values must therefore not be exceeded under any conditions.



Electrical Characteristics

(C_{in}=0.33uF, C_o=0.1uF, 0 ≤ T_j ≤ 125°C, unless otherwise noted)

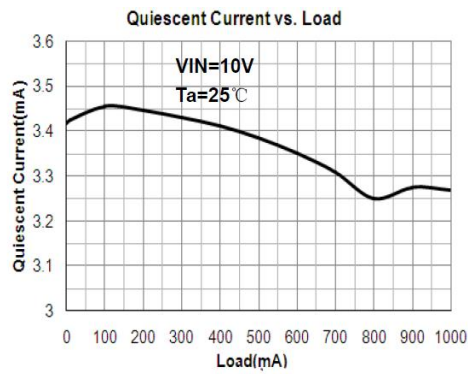
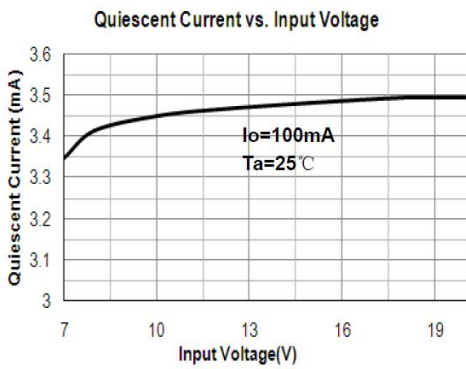
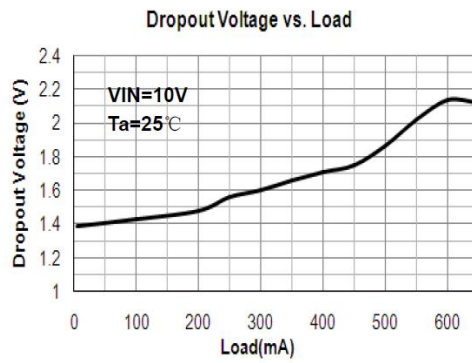
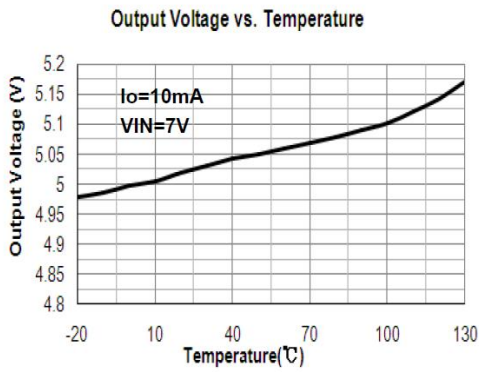
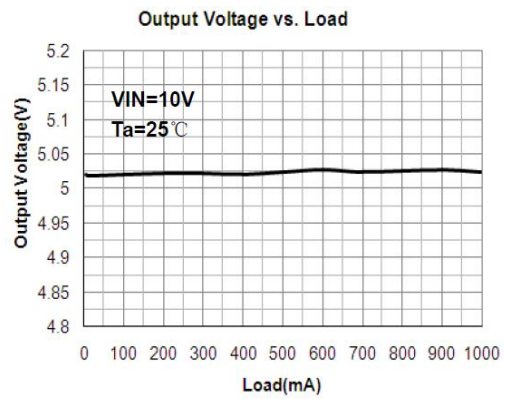
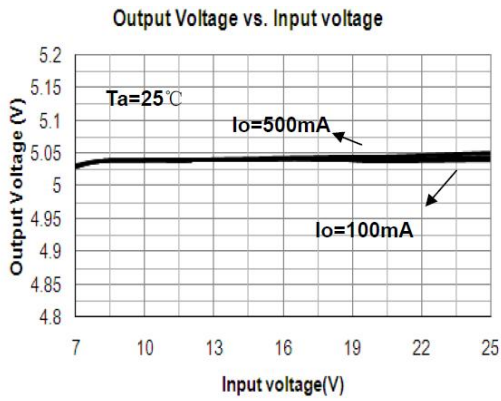
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Output Voltage	V _{out}	I _o =40mA, V _{IN} =10V	0.964v _{out}	v _{out}	1.036v _{out}	V
		I _o =1mA~40mA V _{IN} =7V~18V	0.96v _{out}	v _{out}	1.04v _{out}	
		I _o =1mA~10mA V _{IN} =10V	0.95v _{out}	v _{out}	1.05v _{out}	
Line Regulation	LNR	V _{IN} =7V~18V, I _o =40mA	-150	-	150	mV
		V _{IN} =8V~18V, I _o =40mA	-100	-	100	
Load Regulation	LDR	V _{IN} =10V, I _o =1mA~100mA	-60	-	60	mV
		V _{IN} =10V, I _o =1mA~40mA	-30	-	30	
Dropout Voltage	V _{DIF}	T _j =25°C, I _o =100mA	-	2	-	V
Output noise Voltage	V _N	F=10Hz to 100KHz	-	60	-	uV/V _o
Ripple Rejection	PSRR	T _j =25°C, f=120Hz, I _o =40mA, V _{IN} =8V~20V	-	60	-	dB
Quiescent Current	I _q	V _{IN} =10V, I _O UT=40mA	-	3	-	mA
Quiescent Current Change	ΔI _q	V _{IN} =8V~18V, I _o =40mA	-1.5	-	1.5	mA
		V _{IN} =10V, I _O UT=1mA~40mA,	-0.1	-	0.1	

LNR: Line Regulation. The change in output voltage for a change in the input voltage. The measurement is made under conditions of low dissipation or by using pulse techniques such that the average chip temperature is not significantly affected.

LDR: Load Regulation. The change in output voltage for a change in load current at constant chip temperature.



Typical Performance Characteristics



Typical Application

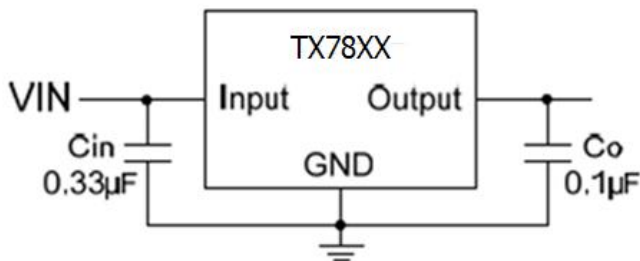


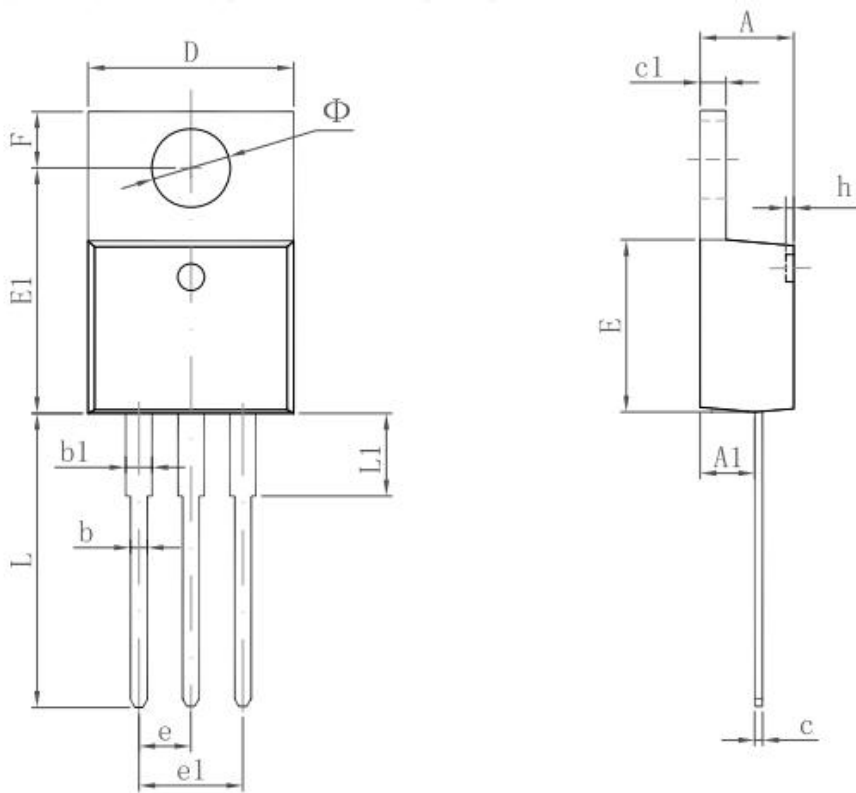
Fig.1 Fixed Output Regulator



TX78XX

<http://www.txsemi.com>

Package Information
3-pin TO220 Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.470	4.670	0.176	0.184
A1	2.520	2.820	0.099	0.111
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.310	0.530	0.012	0.021
c1	1.170	1.370	0.046	0.054
D	10.010	10.310	0.394	0.406
E	8.500	8.900	0.335	0.350
E1	12.060	12.460	0.475	0.491
e	2.540 TYP		0.100 TYP	
e1	4.980	5.180	0.196	0.204
F	2.590	2.890	0.102	0.114
h	0.000	0.300	0.000	0.012
L	13.400	13.800	0.528	0.543
L1	3.560	3.960	0.140	0.156
Φ	3.735	3.935	0.147	0.155



<http://www.txsemi.com>

TX78XX

© Shanghai TX Electronics Sci-Tech Co., Ltd

TX cannot assume responsibility for use of any circuitry other than circuitry entirely embodied in a TX product. No circuit patent license, copyrights or other intellectual property rights are implied. TX reserves the right to make changes to their products or specifications without notice. Customers are advised to obtain the latest version of relevant information to verify, before placing orders, that information being relied on is current and complete.