Features

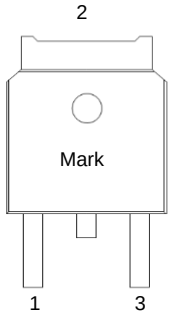
- Output Current of 1.2A
- Thermal Overload Protection
- Short Circuit Protection
- Output transistor safe area protection
- No external components
- Package：TO220, TO252 and TO263
- Output voltage accuracy: tolerance ±5%

General Description

TX78XX is three-terminal positive regulators. One of these regulators can deliver up to 1.2A 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.

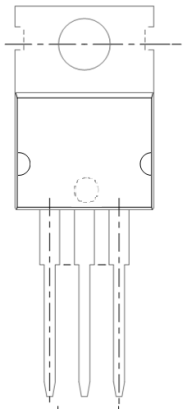
Pin Configuration

TO252 (Top View)



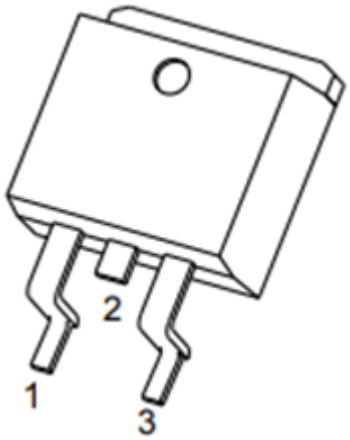
PIN NO.	PIN NAME	FUNCTION
1	VIN	Input voltage pin
2	GND	Ground pin
3	VOUT	Output voltage pin

TO220 (Top View)



1 2 3

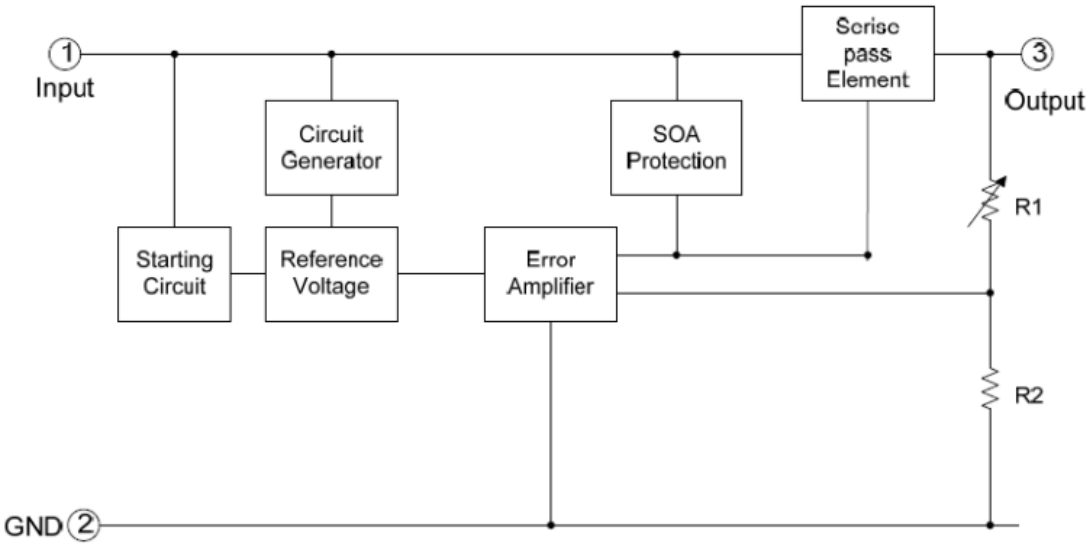
TO263 (Top View)



Selection Table

Part No.	Output Voltage	Package	Marking
TX7805	5.0V	TO220	7805
TX7806	6.0V		7806
TX7808	8.0V		7808
TX7809	9.0V		7009
TX7812	12V		7812

Block Diagram



Absolute Maximum Ratings（Ta=25℃）

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

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

(Cin=0.33uF, Co=0.1uF, 0≤Tj≤125℃，unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Output Voltage	Vout	Io=600mA, VIN=10V	0.964vout	vout	1.036vout	V
		Io=200mA VIN=7V~18V	0.96vout	vout	1.04vout	
		Io=1mA~500mA VIN=8V	0.95vout	vout	1.05vout	
Line Regulation	LNR	VIN=7V~18V, Io=20mA		50		mV
Load Regulation	LDR	VIN=10V, Io=1mA~600mA		150		mV
		VIN=10V, Io=1mA~100mA		50		
Dropout Voltage	V_{DIF}	Tj=25℃，Io=100mA	-	2	-	V
Ripple Rejection	PSRR	Tj=25℃，f=120Hz, Io=40mA, VIN=8V~20V	-	55	-	dB
Quiescent Current	I_Q	VIN=10V, IOUT=40mA	-	3	-	mA
Quiescent Current Change	$\triangle I_Q$	VIN=8V~18V, I_O=40mA		0.1		mA
		VIN=10V, IOUT=1mA~40mA,		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 Application

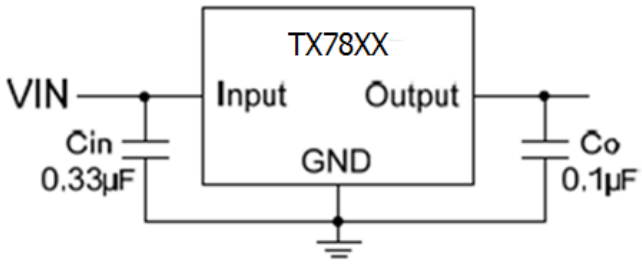
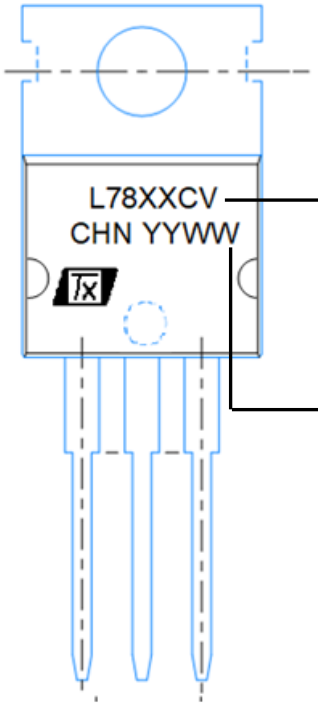


Fig.1 Fixed Output Regulator

Marking Rule

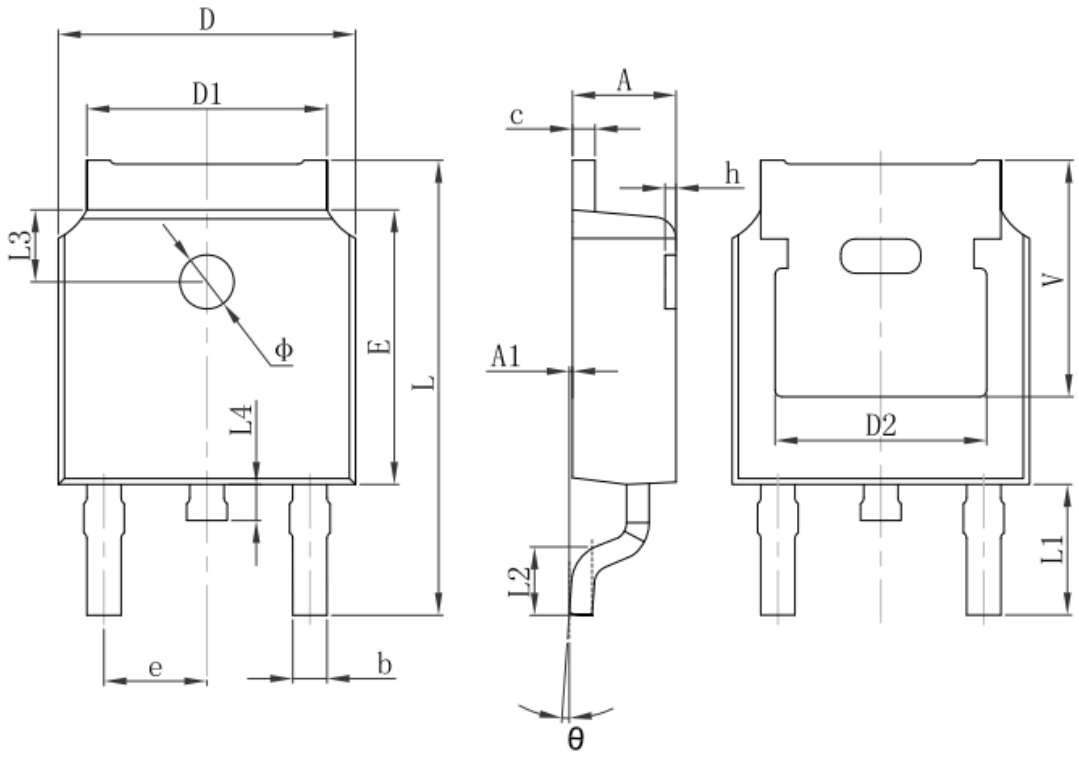


L78—Product Code
XX —Output Voltage
CV —Standard

CHN—CHINA
YYWW—Order NO

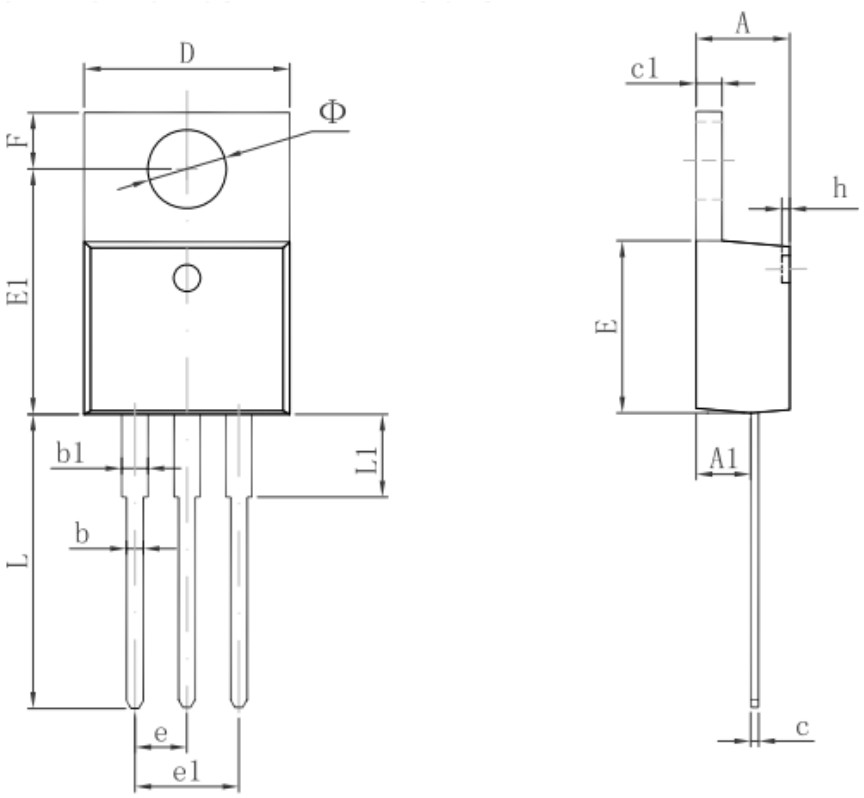
Package Information

TO-252-2L PACKAGE OUTLINE DIMENSIONS



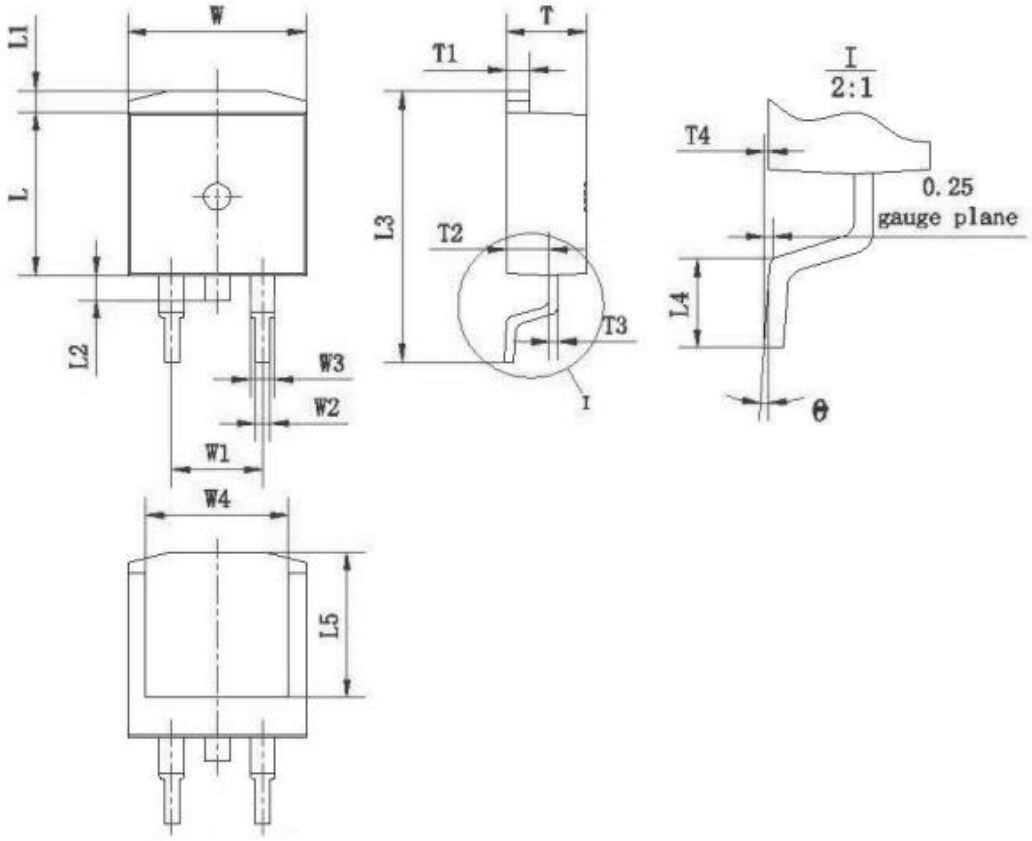
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.660	0.860	0.026	0.034
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.800	10.400	0.386	0.409
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
L4	0.600	1.000	0.024	0.039
Φ	1.100	1.300	0.043	0.051
θ	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.350 REF.		0.211 REF.	

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

3-pin TO263 Outline Dimensions



（单位：mm）

符号	尺寸		符号	尺寸		符号	尺寸	
	Min	Max		Min	Max		Min	Max
W	9.80	10.20	L1	1.00	1.40	T1	1.20	1.40
W1	(5.08)		L2	1.20	1.60	T2	2.20	2.60
W2	0.70	0.95	L3	15.00	15.60	T3	0.45	0.65
W3	1.17	1.62	L4	2.20	2.80	T4	0	0.25
W4	(8.0)		L5	(8.2)		θ	0°	8°
L	9.00	9.40	T	4.30	4.70			