

3-TERMINAL POSITIVE REGULATOR

1. Description

The FLD7805D is three-terminal positive regulator. This regulator can deliver up to 1A of output current. 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.

2. Features

- Output Current of 1A
- Output transistor safe area protection
- No external components
- Package: TO-252

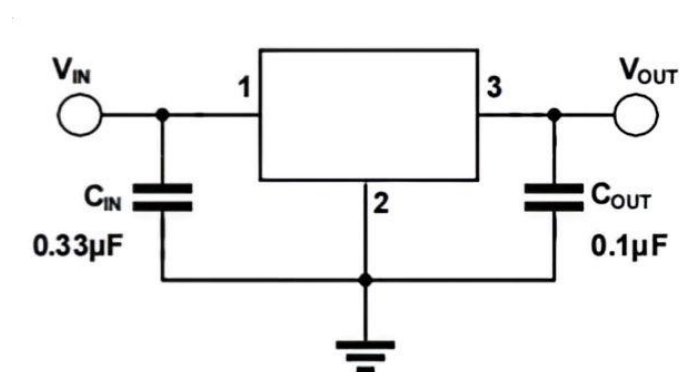
3. Application

- AC Inventors
- DC Motor Drivers
- Household Electric Appliances
- HVAC Systems
- Industrial Power Supplies
- SMPS Post Regulation
- Solar Energy String Inventors
- Test and Measurement Equipment

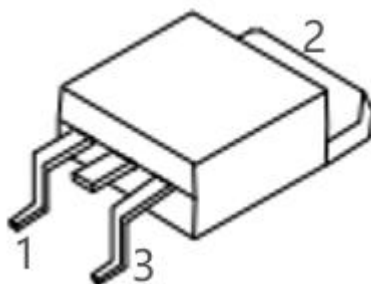
4. Order information

Mode	Package	Ordering Number	Packing Option
FLD7805D	TO-252	FLD7805DYTO252G/TR	Tape and Reel,2500

5. Typical Applications Circuit

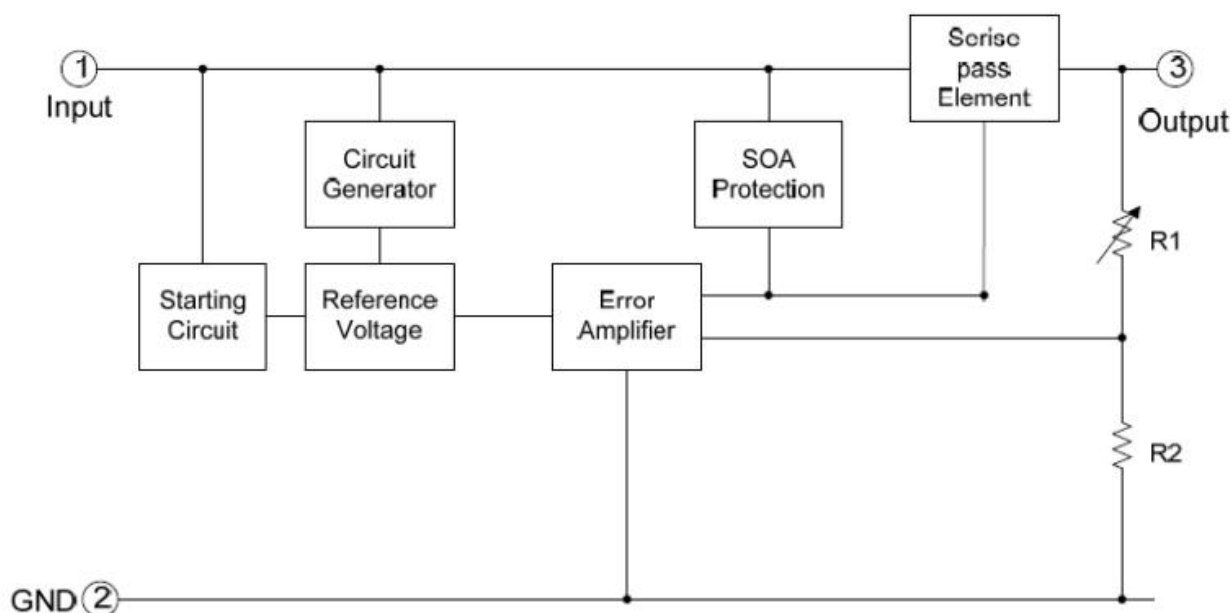


6. Pin Assignments



Pin No.	Pin Name	Function
1	VIN	Input voltage pin
2	GND	Ground pin
3	VOUT	Output voltage pin

7. Block Diagram



8. Absolute Maximum Ratings

($T_a=25^{\circ}\text{C}$)

Parameter	Rating	Unit
Input supply voltage: V_{IN}	40	V
MAX. Output current: I_{out}	1	A
MAX Power: P_{max}	1	W
Maximum junction temperature: T_j	-25~125	$^{\circ}\text{C}$
Storage temperature: T_{str}	-55~125	$^{\circ}\text{C}$
Soldering temperature and time	+260(Recommended 10S)	$^{\circ}\text{C}$

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.

9. Electrical Characteristics

(C_{in}=0.33uF, C_o=0.1uF, T_J = 25°C, unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Output Voltage	V _{out}	I _o =200mA, V _{IN} =10V	4.90	5.0	5.10	V
		I _o =1mA, V _{IN} =10V	4.90	5.0	5.10	
		I _o =1mA~500mA, V _{IN} =10V	4.80	5.0	5.20	
Line Regulation	LNR	V _{IN} =7V~18V, I _o =20mA	-	3	-	mV
Load Regulation	LDR	V _{IN} =10V, I _o =1mA~500mA	-	80	-	mV
		V _{IN} =10V, I _o =1mA~40mA	-	10	-	
Dropout Voltage	V _{DIF}	T _a =25°C, I _o =100mA	-	1.5	-	V
		T _a =25°C, I _o =300mA	-	1.7	-	
		T _a =25°C, I _o =500mA	-	1.85	-	
Ripple Rejection	PSRR	T _a =25°C, f=120Hz, I _o =10mA, V _{IN} =8V	-	55	-	dB
Quiescent Current	I _Q	V _{IN} =10V	-	2	-	mA
Quiescent Current Change	ΔI _Q	V _{IN} =8V~20V, I _o =1mA	-	0.1	-	mA
		V _{IN} =10V, I _{OUT} =1mA~100mA	-	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.

10. Typical Characteristics

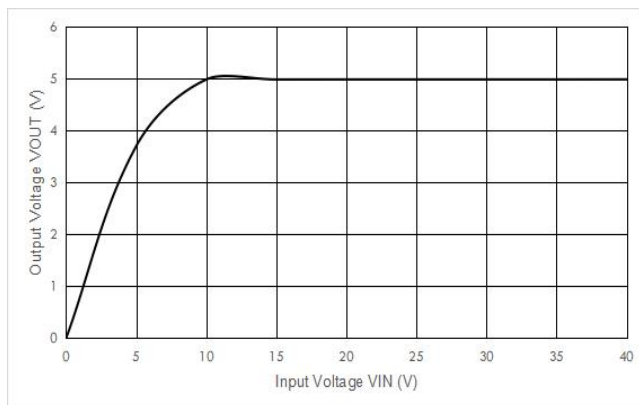


Fig1. Output Voltage vs. Input Voltage

$V_{IN}=10V$, $I_{OUT}=0mA$

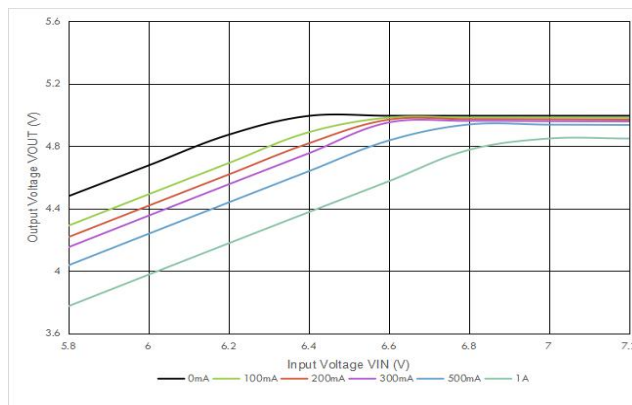


Fig2. Output Voltage vs. Input Voltage

$I_{OUT}=0mA$, 100mA, 200mA, 300mA, 500mA, 1A

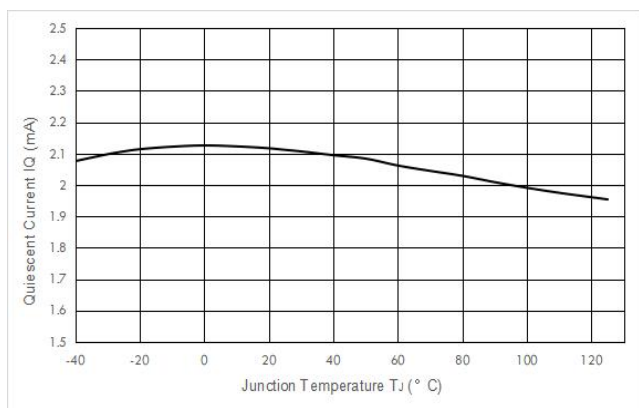


Fig3. Quiescent Current vs. Junction Temperature

$V_{IN}=10V$, $I_{OUT}=0mA$

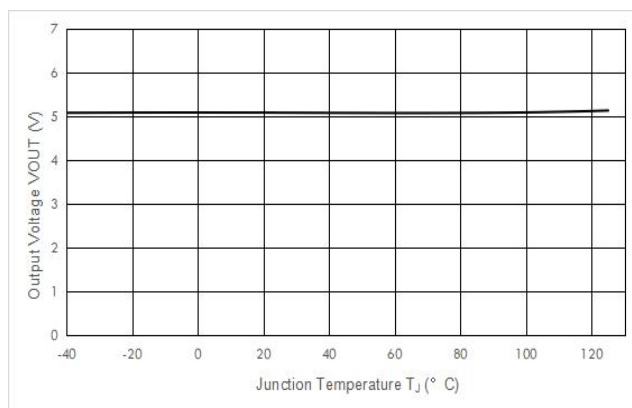


Fig4. Output Voltage vs. Junction Temperature

$V_{IN}=10V$, $I_{OUT}=0mA$

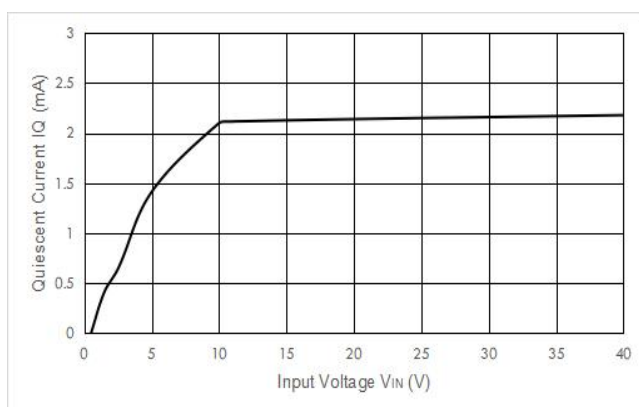


Fig5. Quiescent Current vs. Input Voltage

$V_{IN}=0V-40V$, $I_{OUT}=0mA$

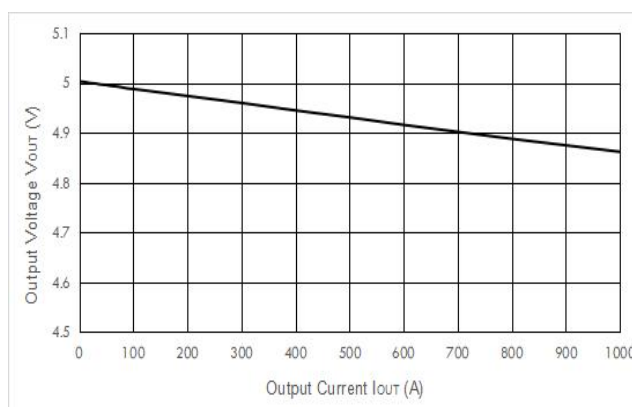
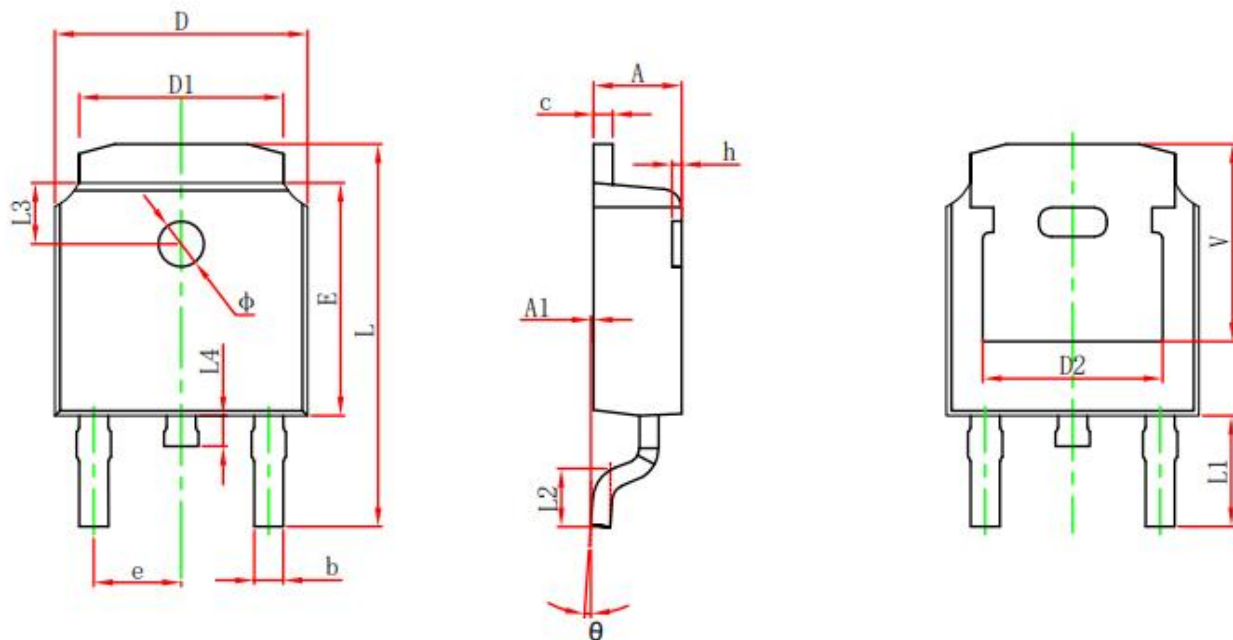


Fig6. Output Voltage vs. Output Current

$V_{IN}=8V$, $I_{OUT}=0-1A$

11. Package Outline Dimensions

(1) Package Type: TO-252



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	0.635	0.770	0.025	0.030
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	9.712	10.312	0.382	0.406
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	5.250 REF.		0.207 REF.	

12. Important Notice And Disclaimer

- We reserves the right to change the instruction manual without prior notice.
- Any semiconductor product has a certain possibility of failure or malfunction under specific conditions. The buyer is responsible for complying with safety standards and taking safety measures when using our products for system design and overall manufacturing to avoid potential failure risks that may cause personal injury or property damage.
- The improvement of product quality is endless, our company will be dedicated to provide customers with better products.

13.Version Modification Record

Version Number	Revision
first edition	
V0.1	1. Update the Typical Characteristics on page 5.
V0.2	2. Update the Description on page 1.
V0.3	3. Update the Electrical Characteristics on page 4.