

**Descriptions**

The S7805 series are three-terminal positive regulators providing over 1A output current with internal current limiting, thermal shutdown and safe area protection. These regulators are useful in a wide range of applications. Although they are just fixed voltage regulators, the S7805 series can be used with external components to obtain adjustable voltages and currents.

**Features**

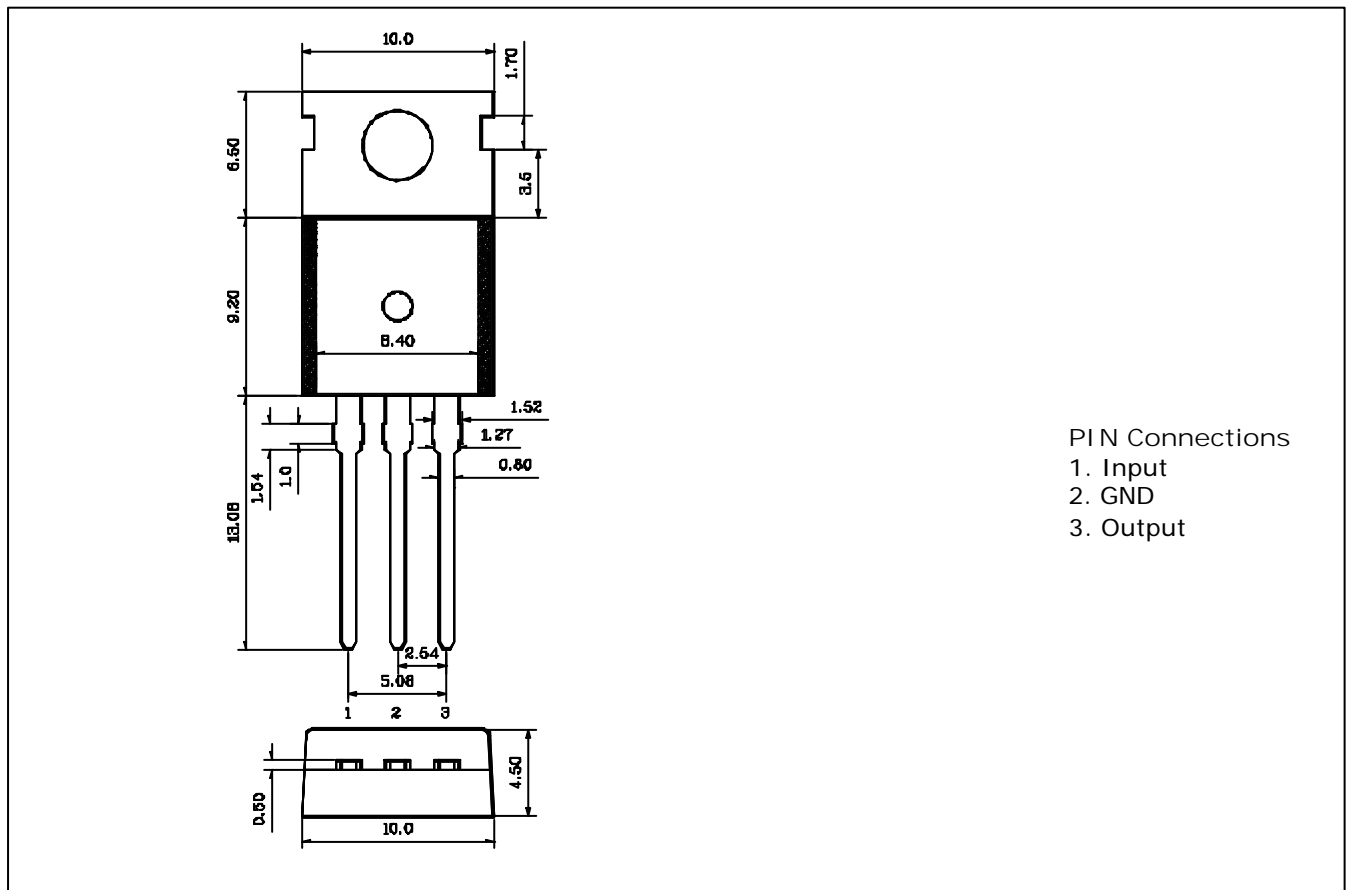
- Internal Short Circuit Current Limiting
- Maximum Output Current (1A Max.)
- Thermal Overload Protection
- Output Transistor Safe Area Protection

**Ordering Information**

Type NO.	Marking	Package Code
S7805P	S7805P	TO-220AB

**Outline Dimensions**

unit : mm



PIN Connections  
 1. Input  
 2. GND  
 3. Output

## Absolute Maximum Ratings

Ta=25°C

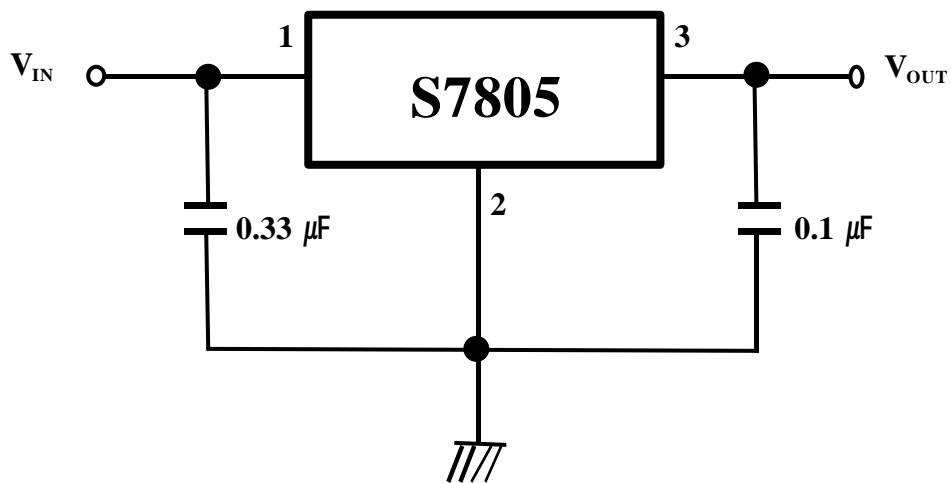
Characteristic	Symbol	Ratings	Unit
Operating Input voltage	V <sub>IN</sub>	35	V
Operating Temperature Range	T <sub>J</sub>	-55 ~ +125	°C
Storage Temperature Range	T <sub>stg</sub>	-66 ~ +150	°C

## Electrical Characteristics

(※ V<sub>IN</sub>=10V, I<sub>OUT</sub>=500mA, 0°C ≤ T<sub>J</sub> ≤ 125°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Output voltage	V <sub>OUT</sub>	V <sub>IN</sub> =10V, I <sub>OUT</sub> =0.5A	4.8	5	5.2	V
Line Regulation	ΔV <sub>OUT</sub>	V <sub>IN</sub> =7V~25V, I <sub>OUT</sub> =0.5A	-	3	50	mV
Load Regulation	ΔV <sub>OUT</sub>	V <sub>IN</sub> =10V, I <sub>OUT</sub> =5mA~1.5A	-	50	80	mV
Quiescent Current	I <sub>QC</sub>	I <sub>OUT</sub> =0, V <sub>IN</sub> =10V	-	4.2	6.0	mA
Quiescent Current Change	ΔI <sub>QC</sub>	7.0V ≤ V <sub>IN</sub> ≤ 25V	-	-	1.3	mA
Output Noise Voltage	V <sub>N</sub>	Ta=25°C, 10Hz ≤ f ≤ 100KHz, I <sub>OUT</sub> =50mA	-	50	-	uV <sub>rms</sub>
Ripple Rejection Ratio	RR	f=120Hz, T <sub>J</sub> =25°C, I <sub>OUT</sub> =50mA 8.0V ≤ V <sub>IN</sub> ≤ 18V	62	78	-	dB
Dropout Voltage	V <sub>D</sub>	I <sub>OUT</sub> =1A, T <sub>J</sub> =25°C	-	2.0	-	V
Output Voltage Drift	ΔV <sub>OUT</sub> /ΔT	-	-	-0.6	-	mV/°C

## Test circuit



Electrical Characteristic Curves

Fig. 1  $I_Q$  vs  $T_a$

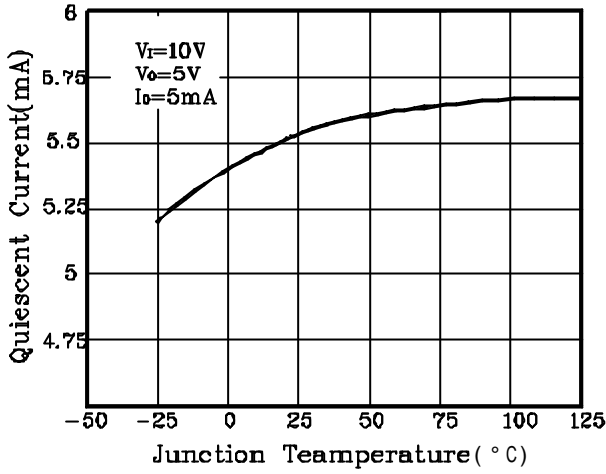


Fig. 2  $I_{OUT}$  vs  $V_{IN}-V_{OUT}$

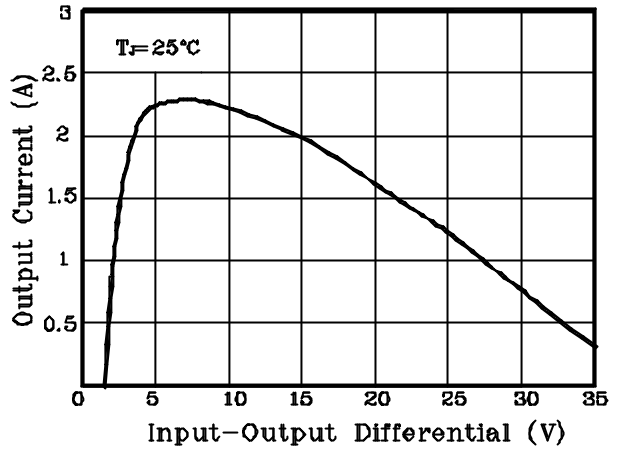


Fig. 3.  $V_{out}$  vs  $T_a$

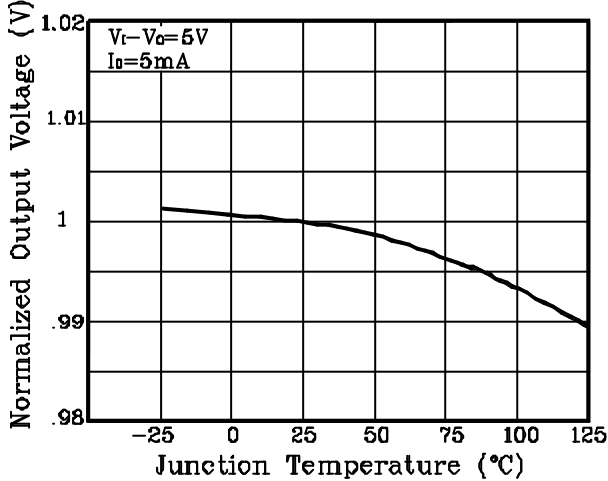


Fig. 4.  $I_{QC}$  vs  $V_{out}$

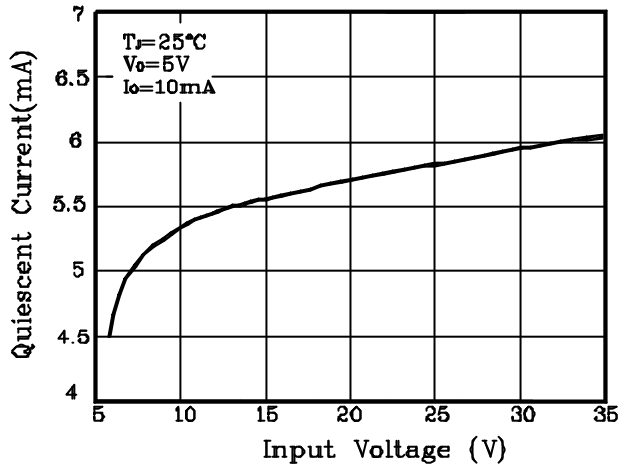


Fig. 5.  $V_{OUT}$  vs  $V_{IN}$

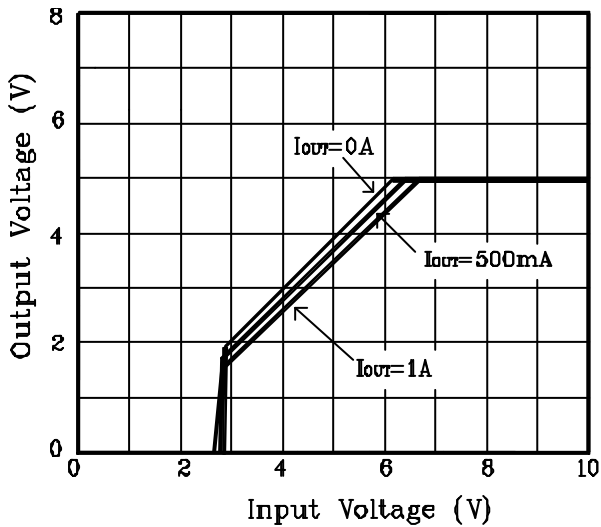


Fig. 6. Ripple Rejection

