AUK Semiconductor

S7805P

Fixed Voltage Regulator

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

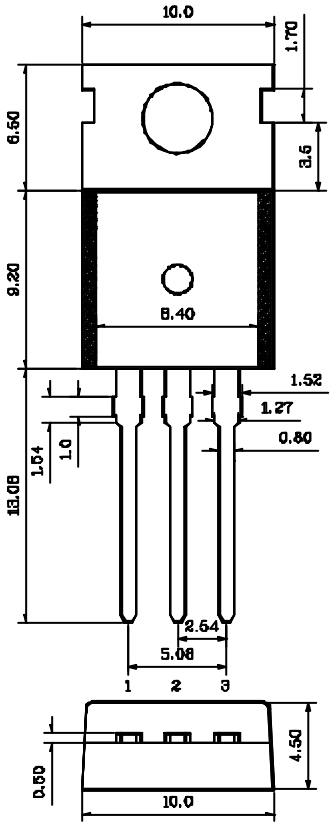
- Internal Short Circuit Current Limiting
- Maximum Output Current (1A Max.)
- Thermal Overload Protection
- Output Transistor Safe Area Protection

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

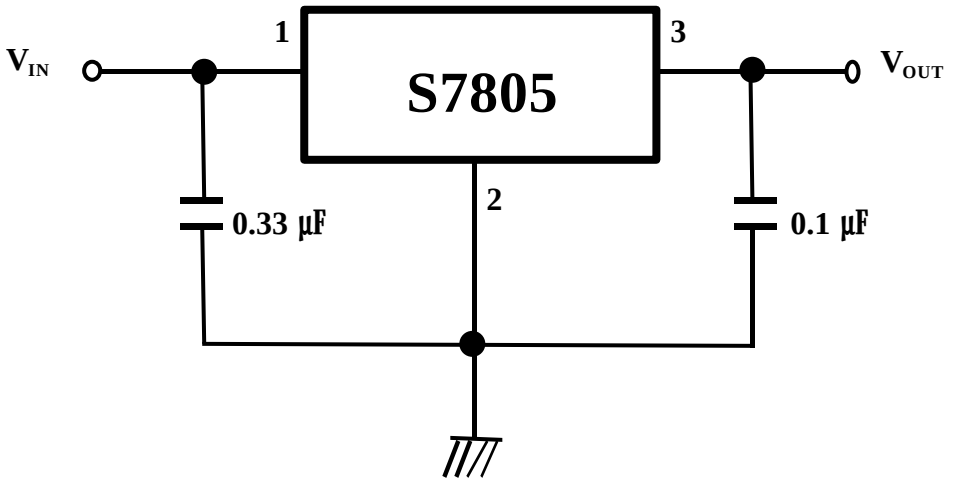
Characteristic	Symbol	Ratings	Unit
Operating Input voltage	V_{IN}	35	V
Operating Temperature Range	T_J	-55~+125	°C
Storage Temperature Range	T_{stg}	-66~+150	°C

Electrical Characteristics

(※ V_{IN}=10V, I_{OUT}=500mA, 0°C ≤ T_j ≤ 125°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Output voltage	V_{OUT}	V_{IN}=10V, I_{OUT}=0.5A	4.8	5	5.2	V
Line Regulation	ΔV_{OUT}	V_{IN}=7V~25V, I_{OUT}=0.5A	-	3	50	mV
Load Regulation	ΔV_{OUT}	V_{IN}=10V, I_{OUT}=5mA~1.5A	-	50	80	mV
Quiescent Current	I_{QC}	I_{OUT}=0 , V_{IN}=10V	-	4.2	6.0	mA
Quiescent Current Change	ΔI_{QC}	7.0V ≤ V_{IN} ≤ 25V			1.3	mA
Output Noise Voltage	V_N	Ta=25°C, 10Hz ≤ f ≤ 100KHz, I_{OUT}=50mA	-	50	-	uV_{rms}
Ripple Rejection Ratio	RR	f=120Hz, T_j=25°C, I_{OUT}=50mA 8.0V ≤ V_{IN} ≤ 18V	62	78	-	dB
Dropout Voltage	V_D	I_{OUT}=1A, T_j=25°C	-	2.0	-	V
Output Voltage Drift	$\Delta V_{OUT}/\Delta T$	-	-	-0.6	-	mV/°C

■Test circuit



Electrical Characteristic Curves

Fig. 1 I_Q vs T_a

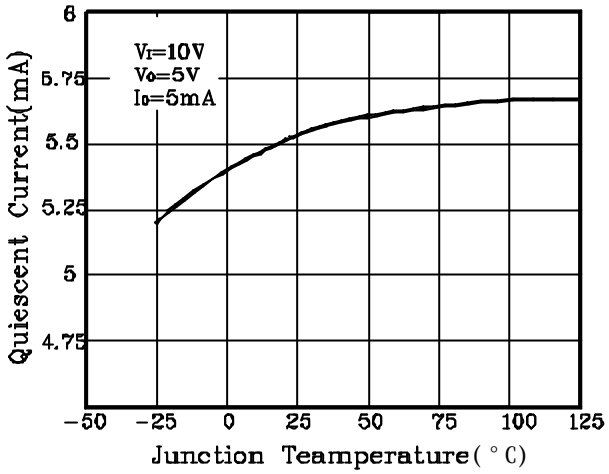


Fig. 2 I_{OUT} vs $|V_{IN}-V_{OUT}|$

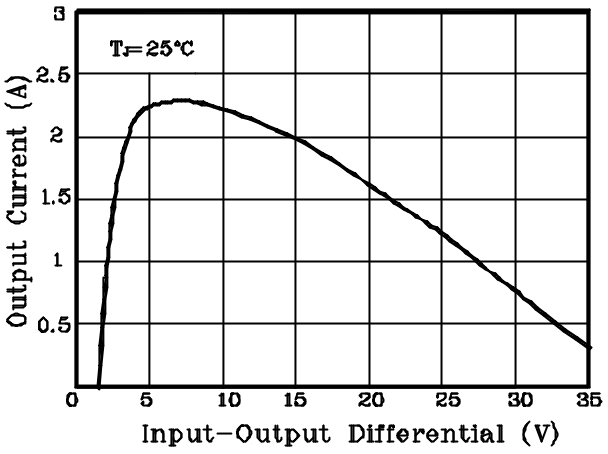


Fig. 3. Vout vs Ta

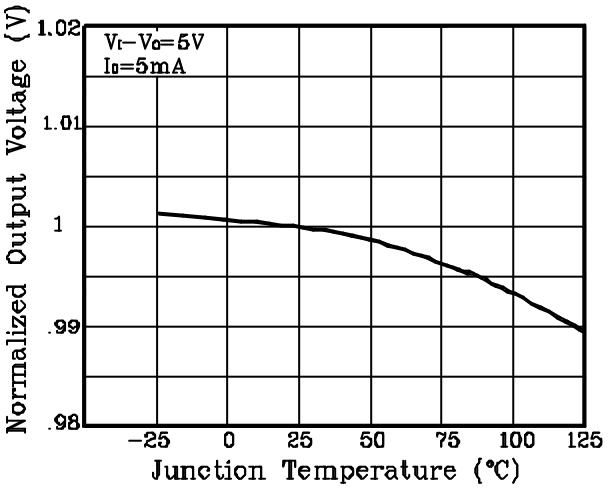


Fig. 4. I_{QC} vs Vout

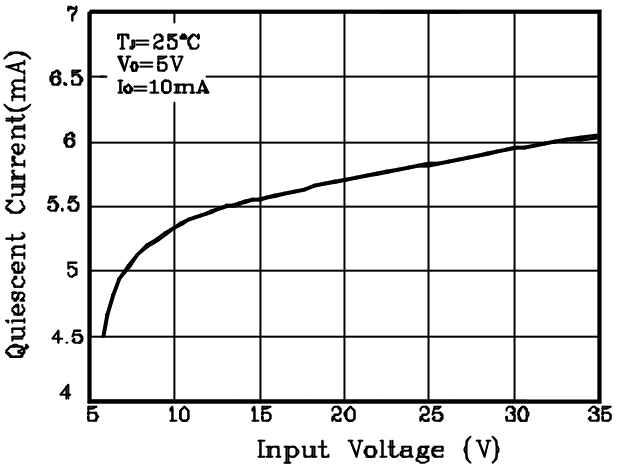


Fig. 5. V_{OUT} vs V_{IN}

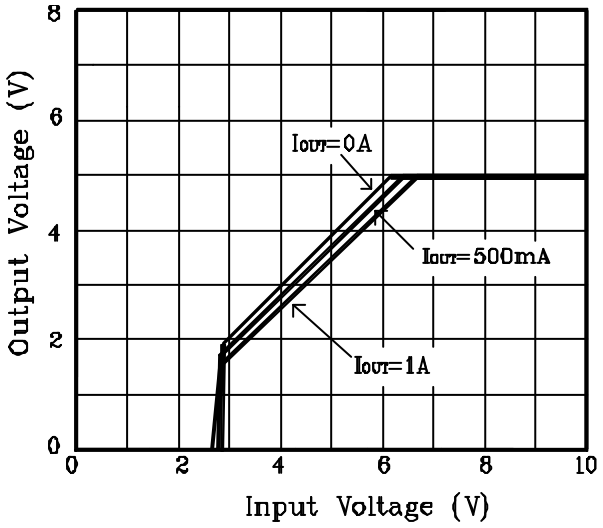


Fig. 6. Ripple Rejection

