

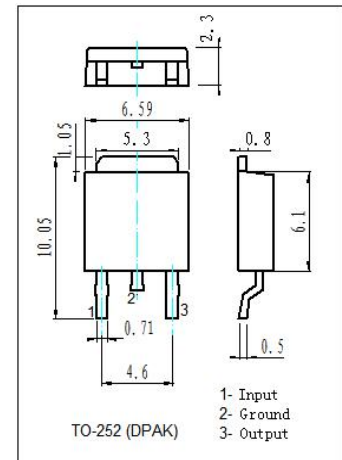
Three-Terminal 1.5A Positive Voltage Regulator

1 Description and Characteristics

The LM7805J Of three-terminal positive voltage regulator Is available in TO-252 Package making it useful in a wide range of applications.

2 Feature

- Output current TO 1.0A
- Output voltage of 5V
- Thermal overload protection
- Short current protection
- Output transistor safe protection
- Package: TO-252(DPAK), Pin configuration: I G O
- Compliant with the RoHS standard



3 Electric Characteristics

3.1 Absolute Maximum Ratings

Tc=25°C (unless otherwise specified)

Parameter	Symbol	Rating	Unit
DC Input Voltage	V _I	35	V
Output Current	I _O	1.0	A
Thermal resistance junction-air	R _{θJA}	87	°C/W
Thermal resistance junction-cases	R _{θJC}	10	°C/W
Operating junction temperature range	T _{opr}	0~125	°C
Storage temperature range	T _{stg}	-65~150	°C

3.2 Electrical characteristics

LM7805J electrical characteristics

(Refer to test circuits, 0<T_j<125°C, I_o=500mA, V_i=10V, C_i=0.33μF, C_o=0.1μF, unless otherwise specified)

Parameter	Symbol	Testing conditions	Min	Typ	Max	Units
Output voltage	V _O *	T _J =25°C, V _I =10V	4.9	5.0	5.1	V
Output voltage	V _O	5.0mA<I _O <1.0A, P _O <10W V _I =7.5V~20V	4.9	5.0	5.1	V
Line regulation	ΔV _O	T _J =25°C, I _o =500mA	V _I =7.5V~20V		100	mV
			V _I =8V~12V		50	
Load regulation	ΔV _O	T _J =25°C, V _I =10V	I _o =5mA~1.0A		100	mV
			I _o =250mA~750mA		50	
Quiescent current	I _q	T _J =25°C		5	8	mA
Quiescent current change	ΔI _q	T _J =25°C, V _I =10V, I _o =5mA~1.0A			0.5	mA
		T _J =25°C, I _o =0.5A, V _I =8V~20V			0.8	
Output voltage drift	ΔV _O /ΔT	I _o =5mA, T _J =0~125°C		0.8		mV/°C
Output noise voltage	V _N	f=10Hz~100KHz, T _a =25°C		42		μV/V _o
Supply voltage rejection	SVR	f=120Hz, V _I =8V~18V	62			dB
Dropout voltage	V _D	I _o =1.0A, T _J =25°C		2		V
Output resistance	R _O	f=1KHz		15		mΩ
Short circuit current	I _{SC}	V _I =35V, T _a =25°C		200		mA
Short circuit peak current	I _{PK}	T _J =25°C		1.8		A

*V_O Grading: ±1%, ±2%

4 Test Circuits

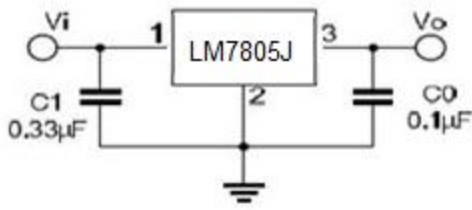


FIG. 1 DC PARAMETERS

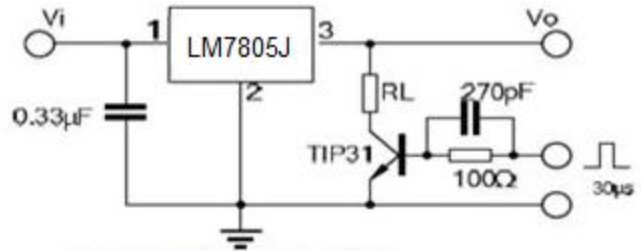


FIG. 2 LOAD REGULATION

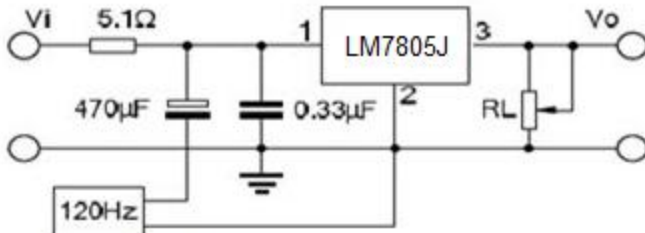


FIG. 3 RIPPLE REJECTION

5 Application Circuits

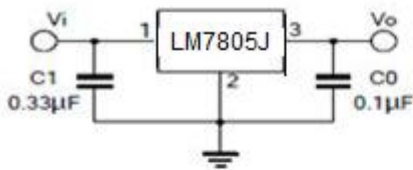


Fig. 4 Fixed output regulator

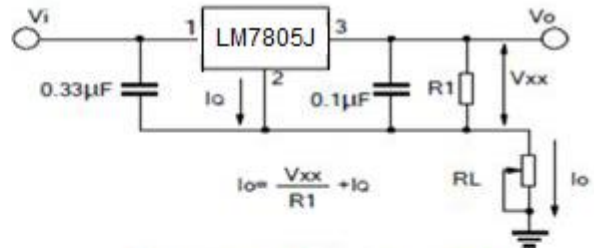


Fig. 5 Constant current regulator

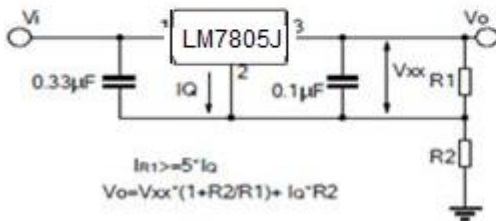


Fig. 6 Circuit for increasing Regulator output voltage

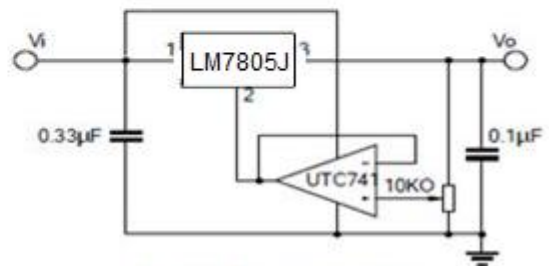


Fig. 7 Adjustable output

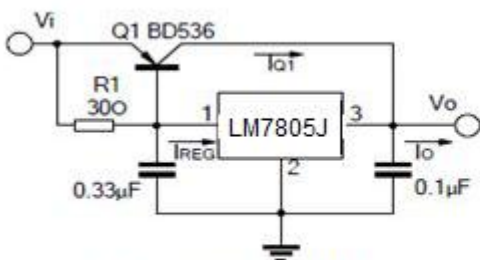


Fig. 8 High current with voltage regulator

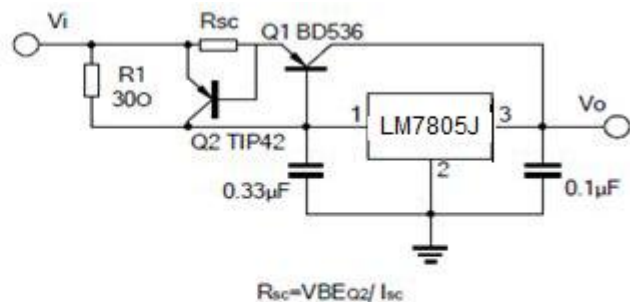


Fig. 9 High output current short circuit protection

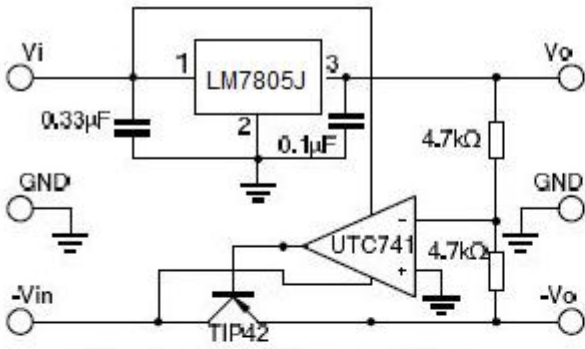


Fig.10 Tracking voltage regulator

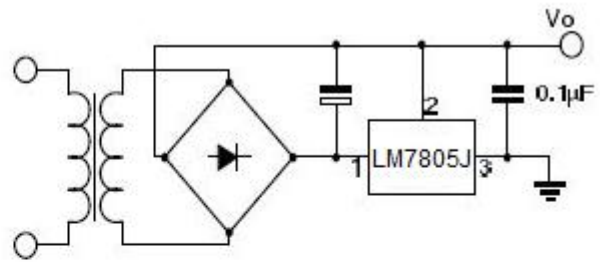


Fig.11 Negative output voltage circuit

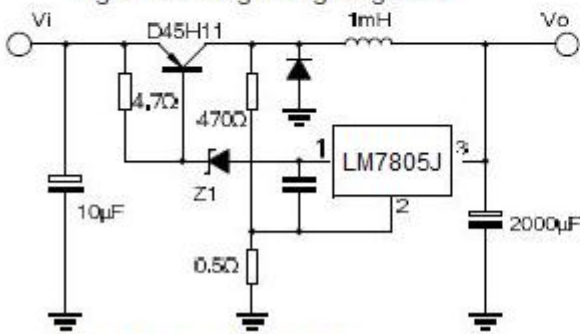


Fig.12 Switching regulator

6 Type Performance Characteristics

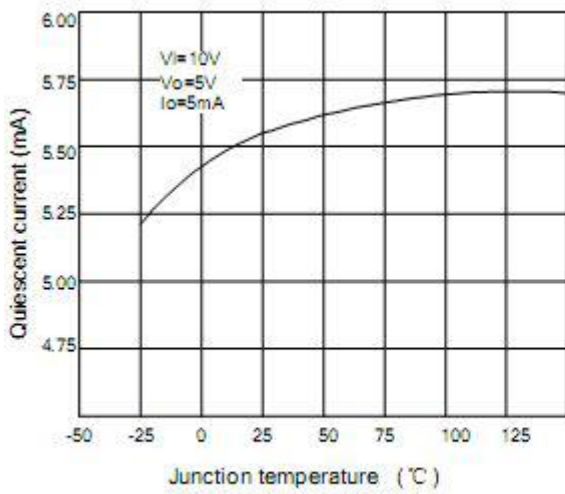


Figure 1 Quiescent current

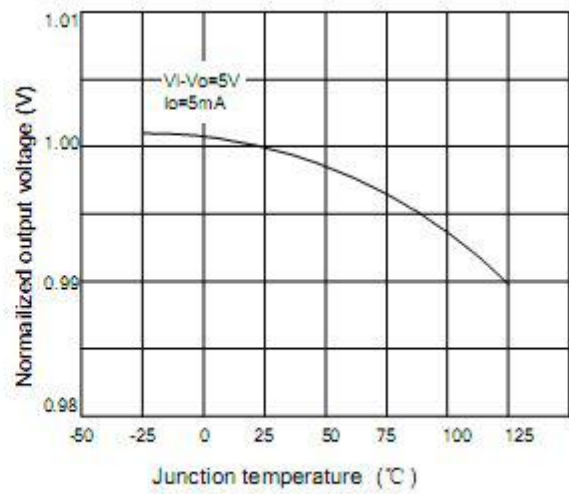


Figure 2 Output voltage

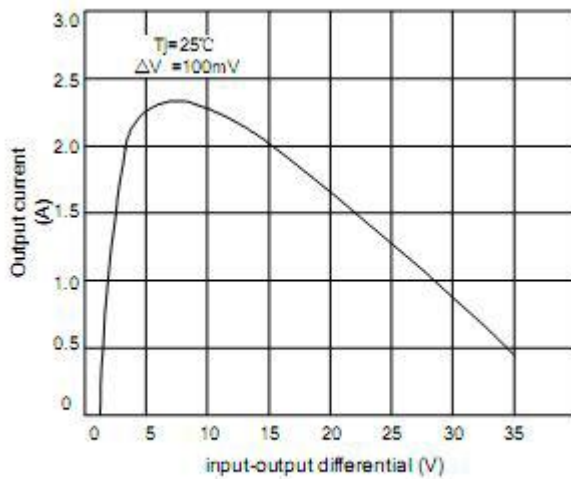
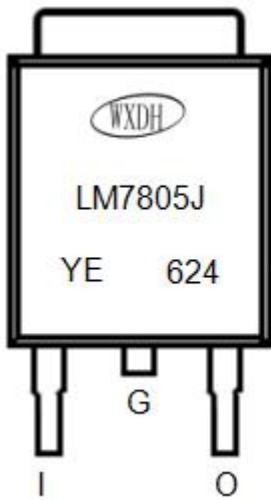



Figure 3 Peak output current

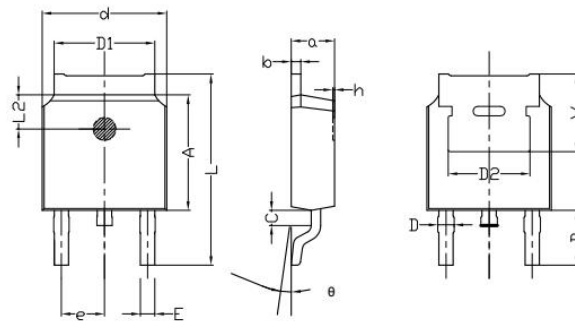
7 Marking



- NO.1: LOGO 
- NO.2: Part Number LM7805J
- NO.3 Left: YE Production identification code
- NO.3 Right: Assembly Week Code, 624 On behalf of 24th natural week 2016 year

8 Dimension

TO-252B PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	min.	max.	min.	max.
a	2.20	2.40	0.087	0.095
b	0.46	0.58	0.018	0.023
c	0.70	0.90	0.028	0.035
D	0.80	1.00	0.032	0.039
d	6.30	6.70	0.248	0.264
D1	5.00	5.50	0.197	0.217
D2	TYP 4.83		TYP 0.190	
A	5.80	6.20	0.228	0.244
e	2.19	2.39	0.086	0.094
L	9.40	10.40	0.370	0.409
B	2.6	3.2	0.102	0.126
L2	1.5	1.8	0.059	0.071
θ	0	8	0	8
h	0	0.3	0	0.012
V	5.25	5.85	0.207	0.230

9 Attentions

- ROUM Semiconductor Technology CO.,LTD. reserves the right to change the specification without prior notice! The customer should obtain the latest version of the information before making the order and verify that the information is complete and up to date.
- It is the responsibility of the purchaser for any failure or failure of any semiconductor product under certain conditions. It is the responsibility of the purchaser to comply with safety standards and to take safety measures in the system design and machine manufacturing of Roma products in order to avoid potential risk of failure. Injury or property damage.
- Product promotion is endless, our company will be dedicated to provide customers with better products.

10 Appendix

Revision history:

Date	REV.	Description	Page
2017.05.15	1.0	Original	