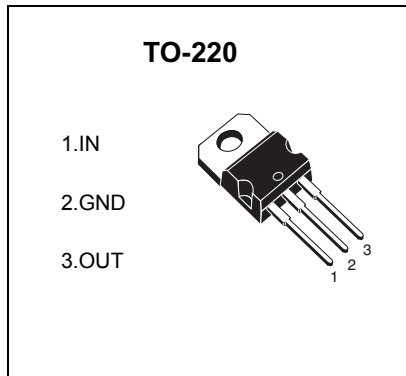
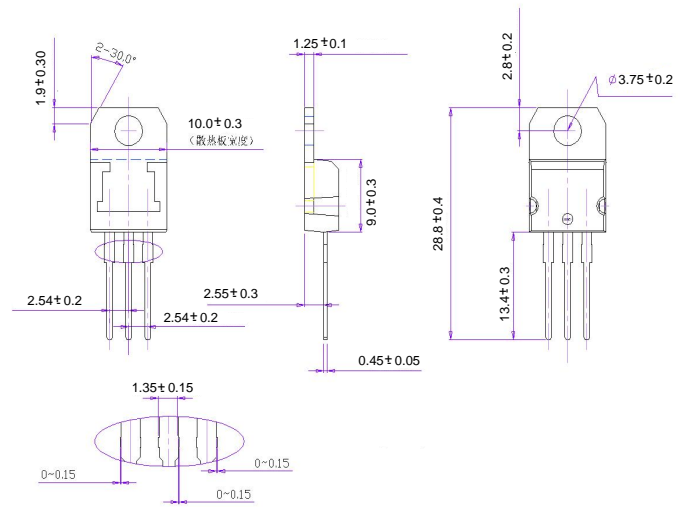


Features

- Output current up to 1.5 A
- Output voltages of 5; 6; 8; 8.5; 9; 12; 15; 18; 24 V
- Thermal overload protection
- Short circuit protection
- Output transition SOA protection
- 2 % output voltage tolerance (A version)
- Guaranteed in extended temperature range (A version)



TO-220



Absolute Maximum Ratings (Tc=25°C)

Symbol	Parameter	Value	UNIT
VI	Input Voltage	35	V
TOPR	Operating Temperature Range	0 ~ +125	°C
TSTG	Storage Temperature Range	-65 ~ +150	°C

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Electrical Characteristics (Tc=25°C) Of 7805 (refer to the test circuits, Tj = -55 to 150°C VI = 10V, IO = 500 mA, CI = 0.33 μ F, CO = 0.1 μ F unless otherwise specified)。

Parameter	Symbol	Test Condition	MIN	TYP	MAX	UNIT	
Output Voltage	VO	TJ = +25°C	4.8	5	5.2	V	
		IO = 5mA to 1A, PO ≤ 15W VI = 8V to 20V	4.75	5	5.25		
Line Regulation (Notel)	Δ VO	TJ = +25°C	VI = 7V to 25V			100	mV
			VI = 8V to 12V			50	
Load Regulation (Notel)	Δ VO	TJ = +25°C IO = 5mA to 1.2A				100	mV
		TJ = +25°C IO = 250mA to 750mA				50	
Quiescent Current	IQ	TJ = +25°C			6	mA	
Quiescent Current Change	Δ IQ	IO = 5mA to 1A				0.5	mA
		VI = 8V to 25V				0.8	
Quiescent Current Change	Δ Vo/Δ T	IO = 5mA			0.6	mV/°C	
Short Circuit Current	ISC	TJ = +25° C, VI = 35V			0.75	1.2	A

Electrical Characteristics (Tc=25°C) Of 7806 (refer to the test circuits, Tj = -55 to 150°C VI = 11V , IO = 500 mA , CI = 0.33 μ F , CO = 0.1 μ F unless otherwise specified)。

Parameter	Symbol	Test Condition	MIN	TYP	MAX	UNIT	
Output Voltage	VO	TJ = +25°C	5.75	6	6.25	V	
		IO = 5mA to 1A, PO ≤ 15W VI = 9V to 21V	5.65	6	6.35		
Line Regulation (Notel)	Δ VO	TJ = +25°C	VI = 8V to 25V			100	mV
			VI = 9V to 13V			50	
Load Regulation (Notel)	Δ VO	TJ = +25°C IO = 5mA to 1.2A				100	mV
		TJ = +25°C IO = 250mA to 750mA				50	
Quiescent Current	IQ	TJ = +25°C				6	mA
Quiescent Current Change	Δ IQ	IO = 5mA to 1A				0.5	mA
		VI = 9V to 25V				0.8	
Quiescent Current Change	Δ Vo/Δ T	IO = 5mA			0.7	mV/°C	
Short Circuit Current	ISC	TJ = +25° C, VI = 35V			0.75	1.2	A

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Electrical Characteristics (Tc=25°C) Of 7808 (refer to the test circuits, Tj = -55 to 150°C VI = 14V, IO = 500 mA, CI = 0.33 μF, CO = 0.1 μF unless otherwise specified)。

Parameter	Symbol	Test Condition	MIN	TYP	MAX	UNIT	
Output Voltage	VO	TJ = +25°C	7.7	8	8.3	V	
		IO = 5mA to 1A, PO ≤ 15W VI = 11.5V to 23V	7.6	8	8.4		
Line Regulation (Notel)	Δ VO	TJ = +25°C	VI = 10.5V to 25V			100	mV
			VI = 11V to 17V			50	
Load Regulation (Notel)	Δ VO	TJ = +25°C			100	mV	
		IO = 5mA to 1.2A			50		
Quiescent Current Change	Δ IQ	TJ = +25°C			6	mA	
		IO = 5mA to 1A			0.5		
Quiescent Current Change	Δ Vo/Δ T	IO = 5mA		1		mV/°C	
		VI = 11.5V to 25V			1		
Short Circuit Current	ISC	TJ = +25° C, VI = 35V		0.75	1.2	A	

Electrical Characteristics (Tc=25°C) Of 7809 (refer to the test circuits, Tj = -55 to 150°C VI = 15V, IO = 500 mA, CI = 0.33 μF, CO = 0.1 μF unless otherwise specified)。

Parameter	Symbol	Test Condition	MIN	TYP	MAX	UNIT	
Output Voltage	VO	TJ = +25°C	8.64	9	9.36	V	
		IO = 5mA to 1A, PO ≤ 15W VI = 11.5V to 26V	8.55	9	9.45		
Line Regulation (Notel)	Δ VO	TJ = +25°C	VI = 11.5V to 26V			100	mV
			VI = 12V to 18V			50	
Load Regulation (Notel)	Δ VO	TJ = +25°C			100	mV	
		IO = 5mA to 1.2A			50		
Quiescent Current Change	Δ IQ	TJ = +25°C			6	mA	
		IO = 5mA to 1A			0.5		
Quiescent Current Change	Δ Vo/Δ T	IO = 5mA		1		mV/°C	
		VI = 11.5V to 26V			1		
Short Circuit Current	ISC	TJ = +25° C, VI = 35V		0.75	1.2	A	

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Electrical Characteristics (Tc=25°C) Of 7812 (refer to the test circuits, Tj = -55 to 150°C VI = 19V, IO = 500 mA, CI = 0.33 μ F, CO = 0.1 μ F unless otherwise specified)。

Parameter	Symbol	Test Condition	MIN	TYP	MAX	UNIT
Output Voltage	VO	TJ = +25°C	11.5	12	12.5	V
		IO = 5mA to 1A, PO ≤ 15W VI =15.5V to 27V	11.4	12	12.6	
Line Regulation (Notel)	Δ VO	TJ = +25°C	VI = 14.5V to 30V		100	mV
			VI = 16V to 22V		50	
Load Regulation (Notel)	Δ VO	TJ = +25°C			100	mV
		IO = 5mA to 1.2A			50	
Quiescent Current Change	Δ IQ	TJ = +25°C	IO = 5mA to 1A		0.5	mA
			VI = 15V to 30V		1	
Quiescent Current	IQ	TJ = +25°C			6	mA
Quiescent Current Change	Δ IQ	IO = 5mA		1.5		mV/°C
Short Circuit Current	ISC	TJ = +25° C, VI = 35V		0.75	1.2	A

Electrical Characteristics (Tc=25°C) Of 7815 (refer to the test circuits, Tj = -40 to 150°C VI = 19V, IO = 500 mA, CI = 0.33 μ F, CO = 0.1 μ F unless otherwise specified)。

Parameter	Symbol	Test Condition	MIN	TYP	MAX	UNIT
Output Voltage	VO	TJ = +25°C	14.4	15	15.6	V
		IO = 5mA to 1A, PO ≤ 15W VI =15.5V to 27V	14.25	15	15.75	
Line Regulation (Notel)	Δ VO	TJ = +25°C	VI = 14.5V to 30V		300	mV
			VI = 16V to 22V		150	
Load Regulation (Notel)	Δ VO	TJ = +25°C			100	mV
		IO = 5mA to 1.2A			150	
Quiescent Current Change	Δ IQ	TJ = +25°C	IO = 5mA to 1A		0.5	mA
			VI = 15V to 30V		1	
Quiescent Current	IQ	TJ = +25°C			6	mA
Quiescent Current Change	Δ IQ	IO = 5mA		1.5		mV/°C
Short Circuit Current	ISC	TJ = +25° C, VI = 35V		0.23		A

RATING AND CHARACTERISTIC CURVES (L78XX)

Figure 1: Dropout Voltage vs Junction Temperature

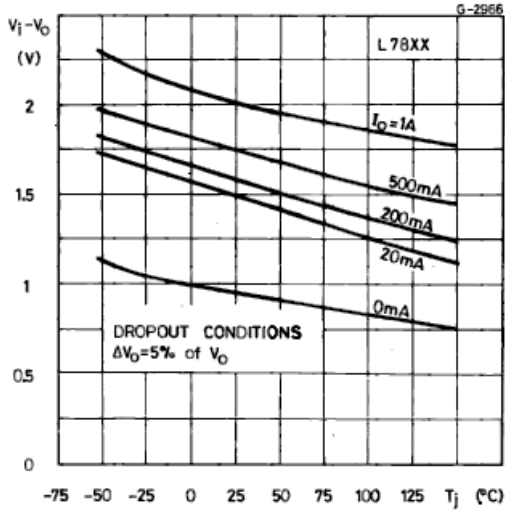


Figure 2: Peak Output Current vs Input/output Differential Voltage

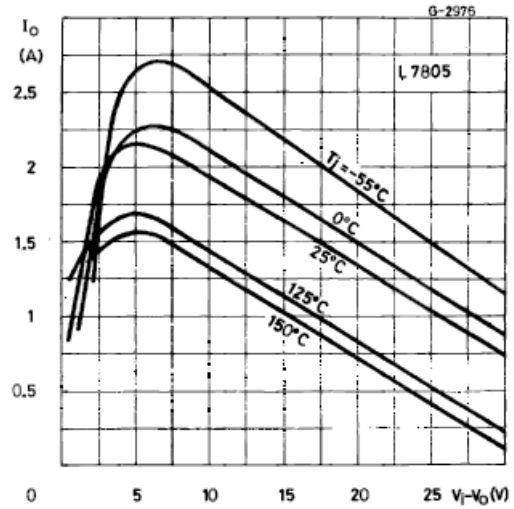


Figure 3: Supply Voltage Rejection vs Frequency Temperature

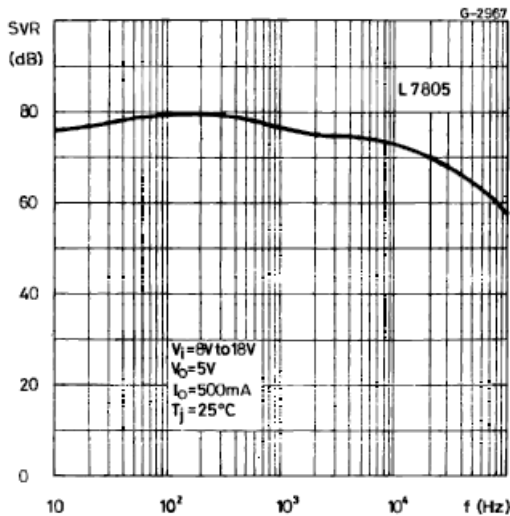


Figure 4: Quiescent Current vs Junction

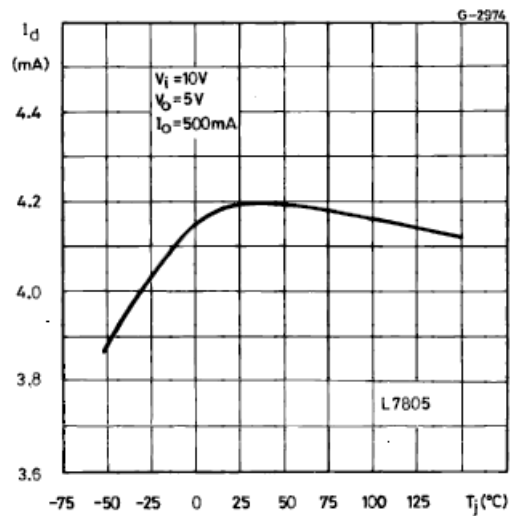


Figure 5: Output Voltage vs Junction Temperature

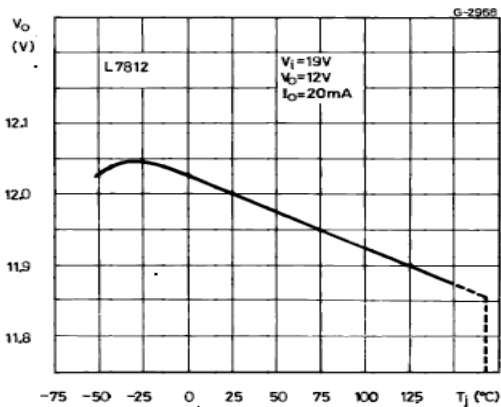
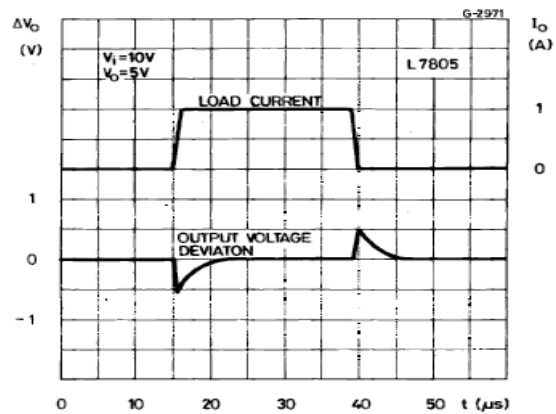


Figure 6: Load Transient Response



RATING AND CHARACTERISTIC CURVES (L78XX)

Figure 7: Output Impedance vs Frequency

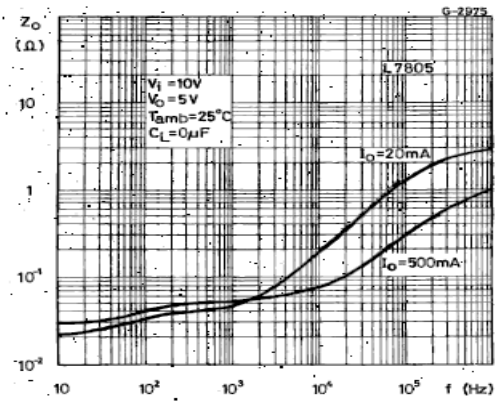


Figure 8: Line Transient Response

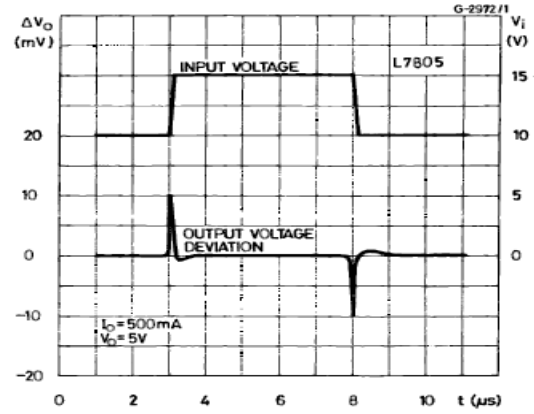


Figure 9: Quiescent Current vs Input Voltage

