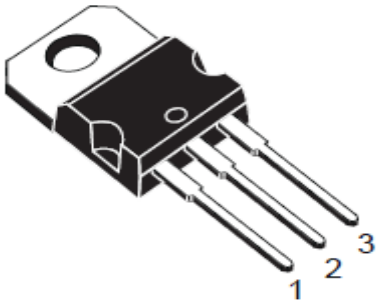
SK7805A THRU SK7812A

Three-terminal positive voltage regulator
OUTPUT CURRENT TO 1.2A
OUTPUT VOLTAGES OF 5; 6; 8; 9; 12V
THERMAL OVERLOAD PROTECTION
SHORT CIRCUIT PROTECTION
OUTPUT TRANSITION SOA PROTECTION

1、 Absolute Maximum Ratings Tc=25℃

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



TO-220

1 Input 2 Gnd 3 Out

2、Electrical Characteristics （Tc＝25℃）Of SK7805A (refer to the test circuits , TJ = -55 to 150℃ VI = 10V, 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℃		4.8	5	5.2	V
		IO = 5mA to 1A, PO ≤ 15W VI = 8V to 20V		4.75	5	5.25	
Line Regulation (Note1)	Δ VO	TJ = +25℃	VI = 7V to 25V			100	mV
			VI = 8V to 12V			50	
Load Regulation (Note1)	Δ VO	TJ = +25℃ IO = 5mA to 1.2A				100	mV
		TJ = +25℃ IO = 250mA to 750mA				50	
Quiescent Current	IQ	TJ = +25℃				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/℃
Short Circuit Current	ISC	TJ = +25° C, VI = 35V			0.75	1.2	A

3、Electrical Characteristics （Tc＝25℃）Of SK7806A(refer to the test circuits , TJ = -55 to 150℃ VI = 11V, 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℃		5.75	6	6.25	V
		IO = 5mA to 1A, PO ≤ 15W VI = 9V to 21V		5.65	6	6.35	
Line Regulation (Note1)	ΔVO	TJ = +25℃	VI = 8V to 25V			100	mV
			VI = 9V to 13V			50	
Load Regulation (Note1)	ΔVO	TJ = +25℃ IO = 5mA to 1.2A				100	mV
		TJ = +25℃ IO = 250mA to 750mA				50	
Quiescent Current	IQ	TJ = +25℃				6	mA
Quiescent Current Change	ΔIQ	IO = 5mA to 1A				0.5	mA
		VI = 9V to 25V				0.8	
Quiescent Current Change	ΔVo/ΔT	IO = 5mA			0.7		mV/℃
Short Circuit Current	ISC	TJ = +25° C, VI = 35V			0.75	1.2	A

4、Electrical Characteristics （Tc＝25℃）Of SK7808A(refer to the test circuits , TJ = -55 to 150℃ 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℃		7.7	8	8.3	V
		IO = 5mA to 1A, PO ≤ 15W VI = 11.5V to 23V		7.6	8	8.4	
Line Regulation (Note1)	Δ VO	TJ = +25℃	VI = 10.5V to 25V			100	mV
			VI = 11V to 17V			50	
Load Regulation (Note1)	Δ VO	TJ = +25℃ IO = 5mA to 1.2A				100	mV
		TJ = +25℃ IO = 250mA to 750mA				50	
Quiescent Current	IQ	TJ = +25℃				6	mA
Quiescent Current Change	Δ IQ	IO = 5mA to 1A				0.5	mA
		VI = 11.5V to 25V				1	
Quiescent Current Change	Δ Vo/Δ T	IO = 5mA			1		mV/℃
Short Circuit Current	ISC	TJ = +25° C, VI = 35V			0.75	1.2	A

5、Electrical Characteristics （Tc＝25℃）Of SK7809A(refer to the test circuits , TJ = -55 to 150℃ 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℃		8.64	9	9.36	V
		IO = 5mA to 1A, PO ≤ 15W VI = 11.5V to 26V		8.55	9	9.45	
Line Regulation (Note1)	ΔVO	TJ = +25℃	VI = 11.5V to 26V			100	mV
			VI = 12V to 18V			50	
Load Regulation (Note1)	ΔVO	TJ = +25℃ IO = 5mA to 1.2A				100	mV
		TJ = +25℃ IO = 250mA to 750mA				50	
Quiescent Current	IQ	TJ = +25℃				6	mA
Quiescent Current Change	ΔIQ	IO = 5mA to 1A				0.5	mA
		VI = 11.5V to 26V				1	
Quiescent Current Change	ΔVo/ΔT	IO = 5mA			1		mV/℃
Short Circuit Current	ISC	TJ = +25° C, VI = 35V			0.75	1.2	A

6、Electrical Characteristics （Tc＝25℃）Of SK7812A (refer to the test circuits ，TJ = -55 to 150℃ VI = 19V，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℃		11.5	12	12.5	V
		IO = 5mA to 1A, PO ≤ 15W VI =15.5V to 27V		11.4	12	12.6	
Line Regulation (Note1)	Δ VO	TJ = +25℃	VI = 14.5V to 30V			100	mV
			VI = 16V to 22V			50	
Load Regulation (Note1)	Δ VO	TJ = +25℃ IO = 5mA to 1.2A				100	mV
		TJ = +25℃ IO = 250mA to 750mA				50	
Quiescent Current	IQ	TJ = +25℃				6	mA
Quiescent Current Change	Δ IQ	IO = 5mA to 1A				0.5	mA
		VI = 15V to 30V				1	
Quiescent Current Change	Δ Vo/Δ T	IO = 5mA			1.5		mV/℃
Short Circuit Current	ISC	TJ = +25° C, VI = 35V			0.75	1.2	A

7、Typical Characteristics

Figure 1: Dropout Voltage vs Junction Temperature

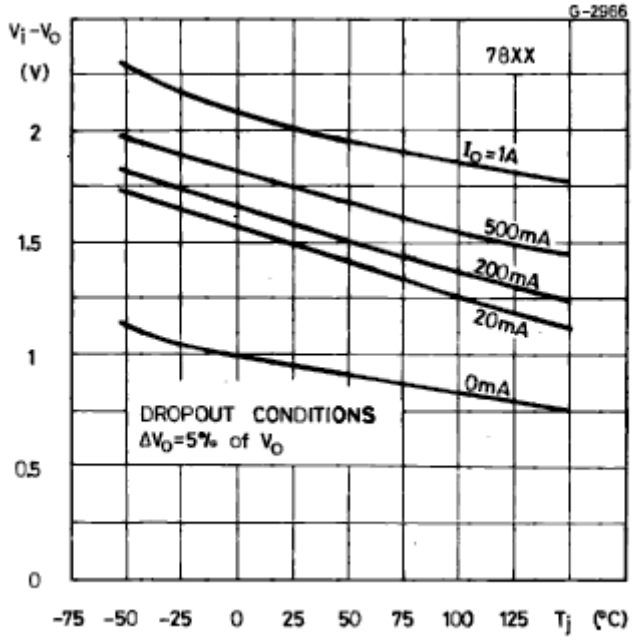


Figure 2: Peak Output Current vs Input/output Differential Voltage

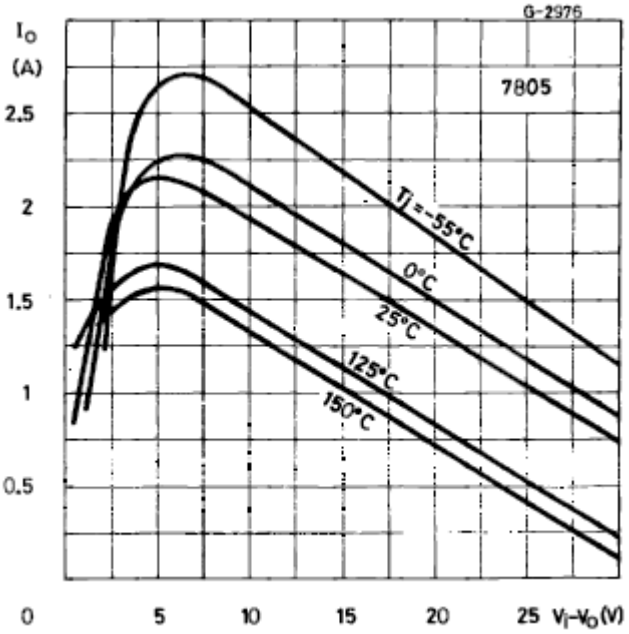


Figure3: Supply Voltage Rejection vs Frequency Temperature

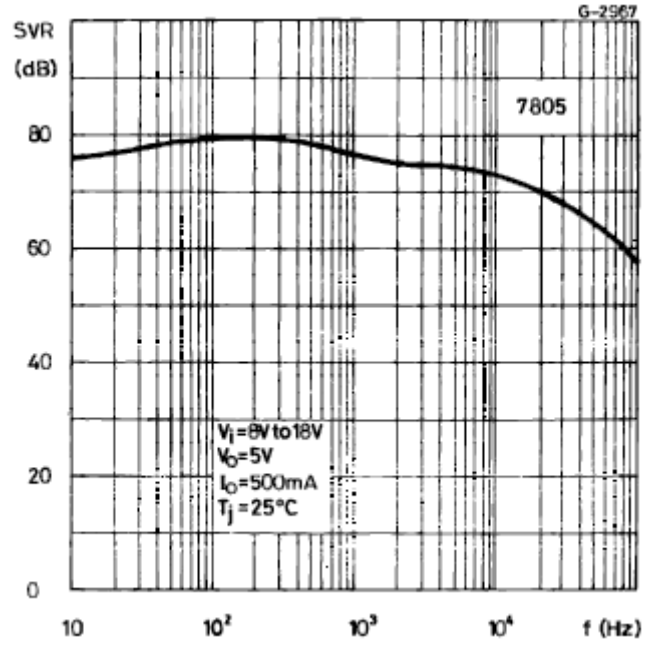


Figure 4: Quiescent Current vs Junction

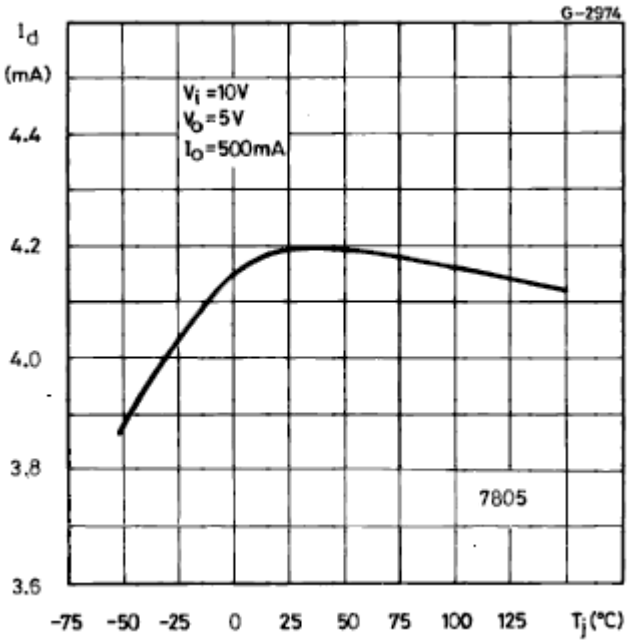


Figure 5: Output Voltage vs Junction Temperature

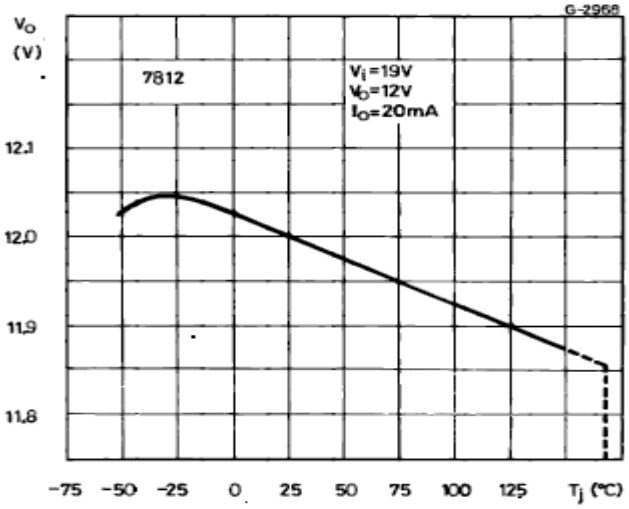


Figure 6: Load Transient Response

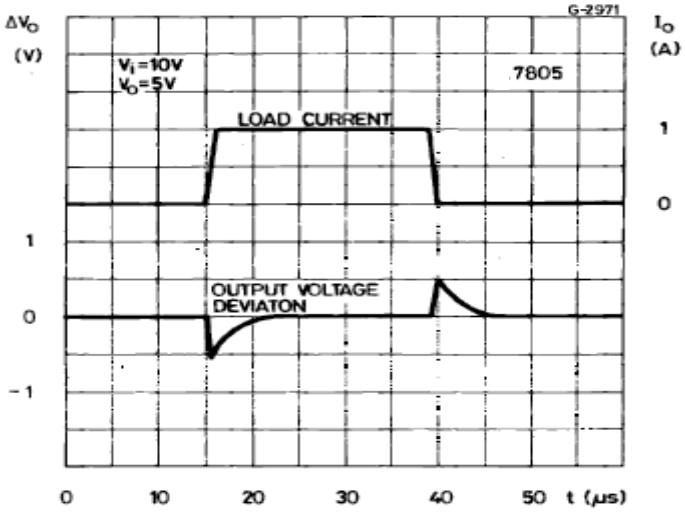


Figure 7: Output Impedance vs Frequency

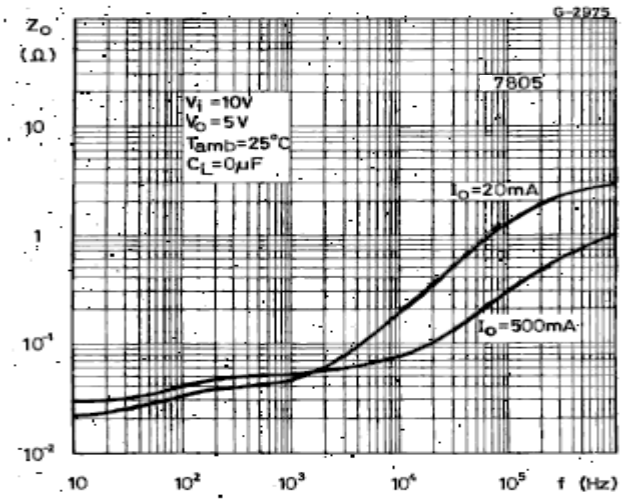


Figure 8: Line Transient Response

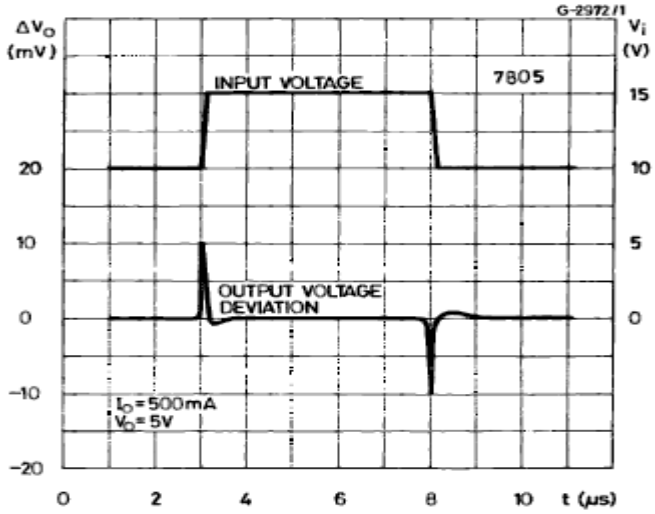
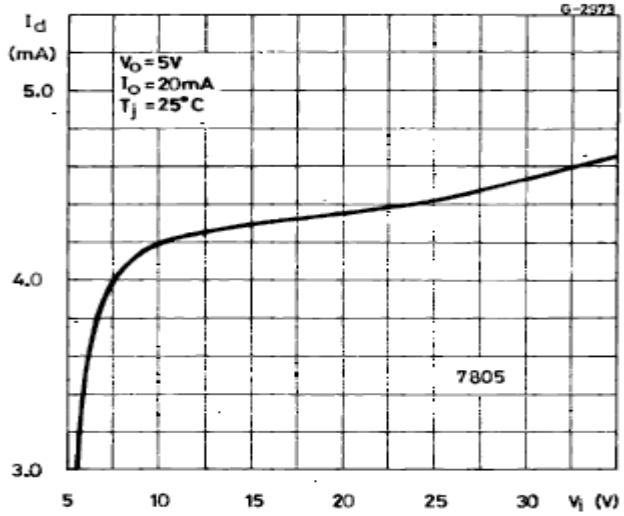


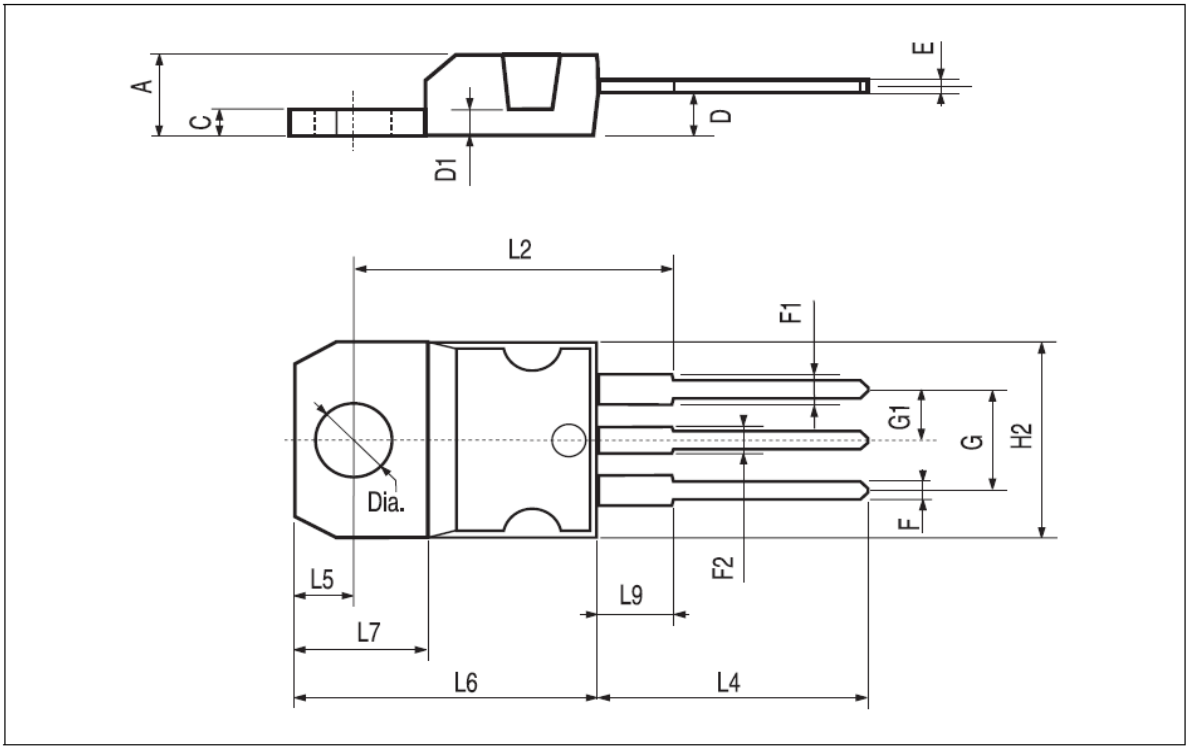
Figure 9: Quiescent Current vs Input Voltage



8、Package Demensions

TO-220 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	4.40		4.60	0.173		0.181
C	1.23		1.32	0.048		0.051
D	2.40		2.72	0.094		0.107
D1		1.27			0.050	
E	0.49		0.70	0.019		0.027
F	0.61		0.88	0.024		0.034
F1	1.14		1.70	0.044		0.067
F2	1.14		1.70	0.044		0.067
G	4.95		5.15	0.194		0.203
G1	2.4		2.7	0.094		0.106
H2	10.0		10.40	0.393		0.409
L2		16.4			0.645	
L4	13.0		14.0	0.511		0.551
L5	2.65		2.95	0.104		0.116
L6	15.25		15.75	0.600		0.620
L7	6.2		6.6	0.244		0.260
L9	3.5		3.93	0.137		0.154
DIA.	3.75		3.85	0.147		0.151



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