

**L7809**

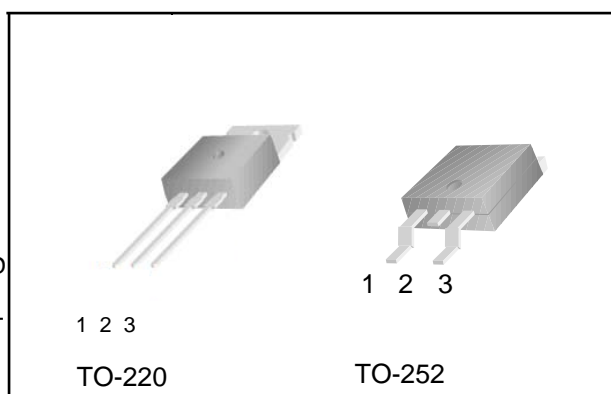
**3 TERMINAL 1.5A POSITIVE VOLTAGE REGULATORS**

L7809 Three-terminal positive voltage regulator

**FEATURES**

- Maximum output current  
I<sub>OM</sub>: 1.5 A
- Output voltage  
V<sub>O</sub>: 9V

1.IN  
2.GND  
3.OUT



**ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)**

Parameter	Symbol	Value	Unit
Input Voltage	V <sub>i</sub>	35	V
Thermal Resistance from Junction to Air	R <sub>θJA</sub>	65	°C/W
Operating Junction Temperature Range	T <sub>OPR</sub>	-20~+125	°C
Storage Temperature Range	T <sub>STG</sub>	-65~+150	°C

**L7809 ELECTRICAL CHARACTERISTICS**

(Refer to test circuits, 0<T<sub>j</sub><125°C, I<sub>o</sub>=500mA, V<sub>i</sub>=15V, C<sub>i</sub>=0.33μF, C<sub>o</sub>=0.1μF, unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Units
Output voltage	V <sub>o</sub>	T <sub>j</sub> =25°C	8.65	9.00	9.35	V
		5.0mA<I <sub>o</sub> <1.0A, P <sub>D</sub> <15W V <sub>i</sub> =11.5V to 24V	8.6	9.0	9.4	V
Line regulation	ΔV <sub>o</sub>	T <sub>j</sub> =25°C, V <sub>i</sub> =11.5V to 25V	-	6	180	mV
		T <sub>j</sub> =25°C, V <sub>i</sub> =12V to 25V	-	2	90	mV
Load regulation	ΔV <sub>o</sub>	T <sub>j</sub> =25°C, I <sub>o</sub> =5.0mA to 1.5A	-	12	180	mV
		T <sub>j</sub> =25°C, I <sub>o</sub> =250mA to 750mA	-	5	90	mV
Quiescent current	I <sub>q</sub>	T <sub>j</sub> =25°C	-	5.0	8	mA
Quiescent current change	ΔI <sub>q</sub>	I <sub>o</sub> =5mA to 1.0A	-	-	0.5	mA
		V <sub>i</sub> =12V to 26V	-	-	0.8	mA
Output voltage drift	ΔV <sub>o</sub> /ΔT	I <sub>o</sub> =5mA	-	1.3	-	mV/°C
Output noise voltage	V <sub>N</sub>	f=10Hz to 100kHz, T <sub>a</sub> =25°C	-	58	-	μV
Ripple rejection	RR	f=120Hz, V <sub>i</sub> =13V to 23V	55	66	-	dB
Dropout voltage	V <sub>o</sub>	I <sub>o</sub> =1.0A, T <sub>j</sub> =25°C	-	2	-	V
Output resistance	R <sub>o</sub>	f=1kHz	-	15	-	mΩ
Short circuit current	I <sub>sc</sub>	V <sub>i</sub> =35V, T <sub>a</sub> =25°C	-	230	-	mA
peak current	I <sub>pk</sub>	T <sub>j</sub> =25°C	-	2.2	-	A

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TEST CIRCUITS

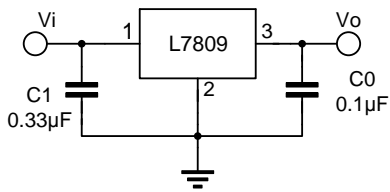


FIG.1 DC PARAMETERS

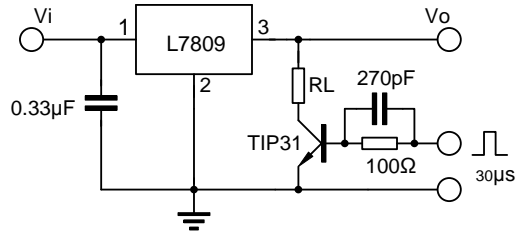


FIG.2 LOAD REGULATION

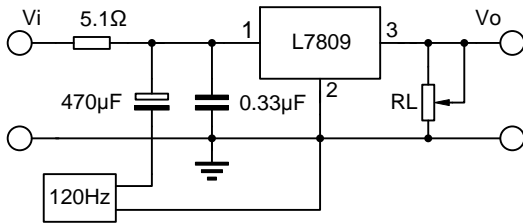


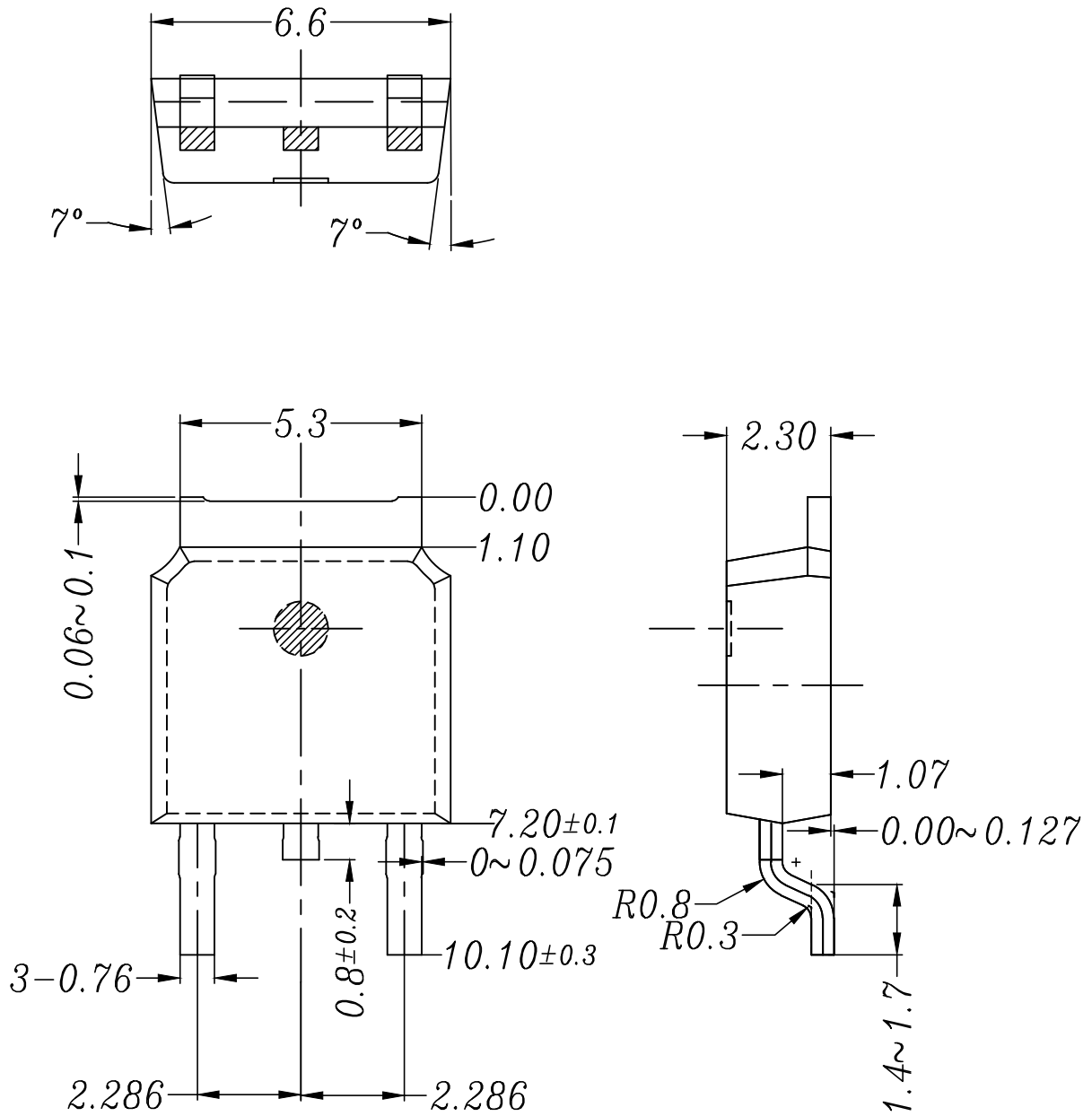
FIG.3 RIPPLE REJECTION

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### TO-252 Package Outline Dimensions

Package Outline Dimensions (Units: mm)



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### TO-220 Package Outline Dimensions

Package Outline Dimensions (Units: mm)

