

**MC7809FCT**

**Three-Terminal  
Positive Voltage  
Regulators**

**Features**

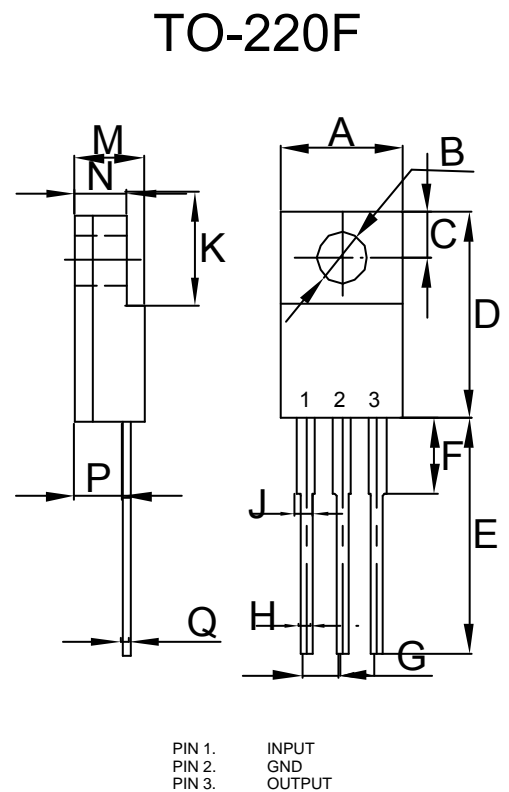
- Output current in excess of 1.5 Ampere
- Input Voltage: 35V
- Output Voltage: 9V
- Total Dissipation: 15W
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0

**Maximum Ratings @ T<sub>A</sub>=25°C, Unless Otherwise Noted**

Parameter	Symbol	Value	Unit
Input Voltage	V <sub>1</sub>	35	V
Total Dissipation	P <sub>D</sub>	15	W
Operating Junction Temperature	T <sub>OPR</sub>	0---+150	°C
Storage Temperature Range	T <sub>STG</sub>	-65---+150	°C

**Electrical Characteristics (V<sub>i</sub>=10V, I<sub>o</sub>=500mA, 0°C<T<sub>j</sub><125°C, C<sub>i</sub>=0.33uF, C<sub>o</sub>=0.1uF, Unless Otherwise Specified)**

Parameter	Sym	Min	Typ	Max	Test conditions
Output Voltage	V <sub>o</sub>	8.65V	9.0V	9.35V	T <sub>j</sub> =25°C
		8.55V	9V	9.45V	11.5V ≤ V <sub>1</sub> ≤ 24V, 5mA ≤ I <sub>o</sub> ≤ 1.0A, P <sub>D</sub> ≤ 15W
Load Regulation	ΔV <sub>o</sub>		12mV	180mV	5mA ≤ I <sub>o</sub> ≤ 1.5A, T <sub>j</sub> =25°C,
			4.0mV	90mV	250mA ≤ I <sub>o</sub> ≤ 750mA, T <sub>j</sub> =25°C
Line regulation	ΔV <sub>o</sub>		7.0mV 2.0mV	180mV 90mV	11.5V ≤ V <sub>1</sub> ≤ 27V, T <sub>j</sub> =25°C 13V ≤ V <sub>1</sub> ≤ 19V, T <sub>j</sub> =25°C
Quiescent Current	I <sub>q</sub>		4.3mA	8.0mA	T <sub>j</sub> =25°C
Quiescent Current Change	ΔI <sub>q</sub>			1mA 0.5mA	11.5V ≤ V <sub>1</sub> ≤ 27V 5mA ≤ I <sub>o</sub> ≤ 1.0A
Output Noise Voltage	V <sub>N</sub>		60μV		f:10Hz~100kHz
Ripple Rejection	RR	55dB	70dB		12V ≤ V <sub>1</sub> ≤ 22V f=120Hz, T <sub>j</sub> =25°C
Dropout Voltage	V <sub>d</sub>		2.0V		I <sub>o</sub> =1.0A, T <sub>j</sub> =25°C
Output Short Circuit Current	I <sub>os</sub>		400mA		T <sub>j</sub> =25°C
Peak Output Current	I <sub>opeak</sub>		2.2A		T <sub>j</sub> =25°C



DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	MIN 388	MAX 407	MIN 9.85	MAX 10.35	
B	MIN 128	MAX 145	MIN 3.25	MAX 3.55	
C	MIN 101	MAX 111	MIN 2.57	MAX 2.83	
D	MIN 570	MAX 610	MIN 14.9	MAX 15.5	
E	MIN 496	MAX 520	MIN 12.6	MAX 13.2	
F	MIN 148	MAX 167	MIN 3.75	MAX 4.25	
G	MIN 096	MAX 101	MIN 2.44	MAX 2.57	
H	MIN 019	MAX 029	MIN .47	MAX .73	
J	MIN 046	MAX 056	MIN 1.17	MAX 1.43	
K	MIN 266	MAX 285	MIN 6.75	MAX 7.25	
M	MIN 165	MAX 190	MIN 4.25	MAX 4.75	
N	MIN 110	MAX 130	MIN 2.81	MAX 3.31	
P	MIN 097	MAX 107	MIN 2.72	MAX 2.48	
Q	MIN 019	MAX 029	MIN .47	MAX .73	



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