

# LM7808C

## Three-Terminal Positive Voltage Regulators

### Features

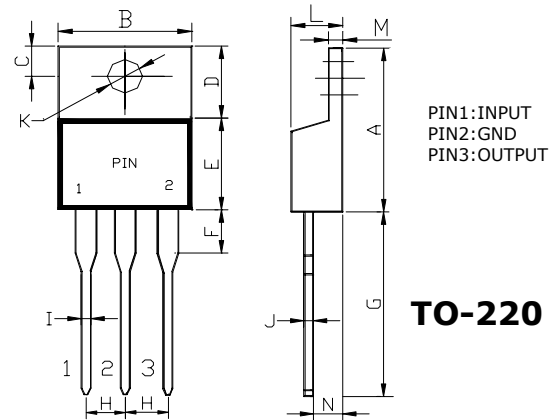
- \* Output current at 1.0 Ampere
- \* No external components required
- \* Internal thermal overload protection
- \* Internal short-circuit current limiting
- \* Output voltage offered in 4% tolerance

### Maximum Ratings

Parameter	Symbol	Value	Unit
Input Voltage	V1	30	V
Operating Ambient Temperature	PD	15	W
Operating Junction Temperature	TOPR	-20to+70	°C
Storage Temperature Range	TSTG	-55to+125	°C

### Mechanical Data

- \* Case: TO-220AB Molded Plastic
- \* Terminals: Plated Lead Solderable per MIL-STD-202, Method 208
- \* Marking: Type Number
- \* Weight: 2.24 grams (approx)



DIM	Dimensions				NO TE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.570	0.620	14.48	15.75	
B	0.380	0.405	9.66	10.28	
C	0.100	0.120	2.54	3.04	
D	0.235	0.255	5.97	6.48	
E	0.335	0.365	8.51	9.27	
F	0.110	0.155	2.80	3.93	
G	0.500	0.562	12.70	14.27	
H	0.095	0.105	2.42	2.66	
I	0.025	0.035	0.64	0.89	
J	0.016	0.025	0.41	0.64	
K	0.142	0.147	3.61	3.73	φ
L	0.160	0.190	4.06	4.82	
M	0.045	0.055	1.14	1.39	
N	0.102 typ		2.6 typ		

### Electrical Characteristics

Parameter	Sym	Min	Typ	Max	Test conditions
Output Voltage	V <sub>o</sub>	7.68V	8.0V	8.32V	T <sub>j</sub> =25°C
		7.74V		8.26V	10.5V ≤ V <sub>1</sub> ≤ 23V, 5mA ≤ I <sub>o</sub> ≤ 1.0A PD=15W
Load Regulation	ΔV <sub>o</sub>		12mV	160mV	5mA ≤ I <sub>o</sub> ≤ 1.5A, T <sub>j</sub> =25°C
			4.0mV	60mV	250mA ≤ I <sub>o</sub> ≤ 750mV, T <sub>j</sub> =25°C
Line regulation	ΔV <sub>o</sub>		6.0mV	160mV	10.5V ≤ V <sub>1</sub> ≤ 25V, T <sub>j</sub> =25°C
			2.0mV	80mV	11V ≤ V <sub>1</sub> ≤ 17V, T <sub>j</sub> =25°C
Quiescent Current	I <sub>q</sub>		4.3mA	8.0mA	T <sub>j</sub> =25°C, I <sub>o</sub> =0
Quiescent Current Change	ΔI <sub>q</sub>			1.0mA 0.5mA	10.5V ≤ V <sub>1</sub> ≤ 25V 5mA ≤ I <sub>o</sub> ≤ 1.0A
Output Noise Voltage	V <sub>N</sub>		52 μV		10Hz ≤ f ≤ 100KHz, T <sub>j</sub> =25°C
Ripple Rejection	RR	56dB	72dB		f=120Hz
Dropout Voltage	V <sub>d</sub>		2.0V		I <sub>o</sub> =1.0A, T <sub>j</sub> =25°C
Output Short Circuit Current	R <sub>o</sub>		16mohm		f=1.0KHz
Output Short Circuit Current	I <sub>os</sub>		450mA		T <sub>j</sub> =25°C
Peak Output Current	I <sub>opeak</sub>		2.2A		T <sub>j</sub> =25°C
Temperature Coefficient of Output voltage	ΔV <sub>o</sub> /ΔT <sub>j</sub>		1.8mV/°C		0°C ≤ V <sub>1</sub> ≤ 125°C, I <sub>o</sub> =5mA