



Micro Commercial Components

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 20736 Marilla Street Chatsworth  
 CA 91311  
 Phone: (818) 701-4933  
 Fax: (818) 701-4939

# MC7810CT

## Three-Terminal Positive Voltage Regulators

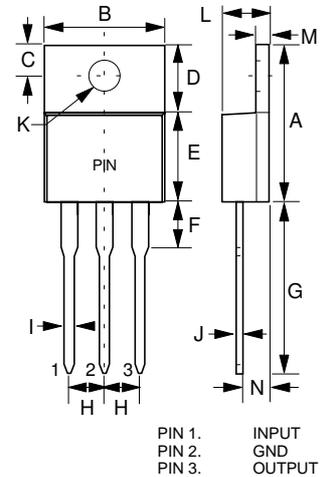
### Features

- Output current in excess of 1.0 Ampere
- No external components required
- Internal thermal overload protection
- Internal short-circuit current limiting
- Output voltage offered in 2% tolerance
- 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>	30	V
Operating Ambient Temperature	P <sub>D</sub>	15	W
Operating Junction Temperature	T <sub>OPR</sub>	-20---+75	°C
Storage Temperature Range	T <sub>STG</sub>	-55---+125	°C

### TO-220



### Electrical Characteristics (V<sub>i</sub>=16V, 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>	9.8V	10.0V	10.2V	T <sub>j</sub> =25°C
		9.75V		12.25V	12.5V ≤ V <sub>1</sub> ≤ 30V, 5mA ≤ I <sub>o</sub> ≤ 1.0A, P <sub>D</sub> =15W
Load Regulation	ΔV <sub>o</sub>		12mV	240mV	5mA ≤ I <sub>o</sub> ≤ 1.5A, T <sub>j</sub> =25°C,
			4.0mV	120mV	250mA ≤ I <sub>o</sub> ≤ 750mA, T <sub>j</sub> =25°C
Line regulation	ΔV <sub>o</sub>		10mV	240mV	10.5V ≤ V <sub>1</sub> ≤ 30V, T <sub>j</sub> =25°C
			3.0mV	120mV	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, I <sub>o</sub> =0
Quiescent Current Change	ΔI <sub>q</sub>			1.0mA 0.5mA	14.5V ≤ V <sub>1</sub> ≤ 30V 5mA ≤ I <sub>o</sub> ≤ 1.0A
Output Noise Voltage	V <sub>N</sub>		52μV		10Hz ≤ f ≤ 100KHz T <sub>j</sub> =25°C
Ripple Rejection	RR	54dB	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 ≤ T <sub>j</sub> ≤ 125°C, I <sub>o</sub> =5mA

DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.560	.625	14.22	15.88	
B	.380	.420	9.65	10.67	
C	.100	.135	2.54	3.43	
D	.230	.270	5.84	6.86	
E	.380	.420	9.65	10.67	
F	-----	.250	-----	6.35	
G	.500	.580	12.70	14.73	
H	.090	.110	2.29	2.79	
I	.020	.045	0.51	1.14	
J	.012	.025	0.30	0.64	
K	.139	.161	3.53	4.09	∅
L	.140	.190	3.56	4.83	
M	.045	.055	1.14	1.40	
N	.080	.115	2.03	2.92	

