Micro Commercial Components
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MC7810

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

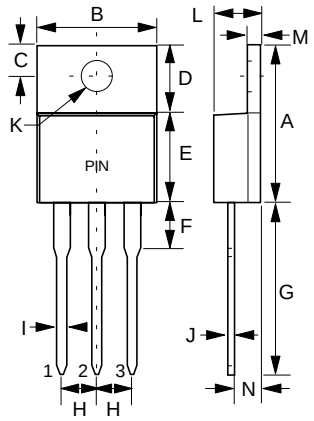
Maximum Ratings @ T_A=25°C, Unless Otherwise Noted

Parameter	Symbol	Value	Unit
Input Voltage	V_1	30	V
Operating Ambient Temperature	P_D	15	W
Operating Junction Temperature	T_{OPR}	-20---+75	°C
Storage Temperature Range	T_{STG}	-55---+125	°C

Electrical Characteristics (Vi=16V, Io=500mA, 0°C<Tj<125°C, Ci=0.33uF, Co=0.1uF, Unless Otherwise Specified)

Parameter	Sym	Min	Typ	Max	Test conditions
Output Voltage	V_0	9.8V	10.0V	10.2V	T_j=25°C
		9.75V		12.25V	12.5V≦V_1≦30V, 5mA≦I_O≦1.0A, P_D=15W
Load Regulation	$\triangle V_o$		12mV	240mV	5mA≦I_O≦1.5A, T_j=25°C,
			4.0mV	120mV	250mA≦I_O≦750mA, T_j=25°C
Line regulation	$\triangle V_o$		10mV	240mV	10.5V≦V_1≦30V, T_j=25°C
			3.0mV	120mV	13V≦V_1≦19V, T_j=25°C
Quiescent Current	I_q		4.3mA	8.0mA	T_j=25°C, I_O=0
Quiescent Current Change	$\triangle I_q$			1.0mA 0.5mA	14.5V≦V_1≦30V 5mA≦I_o≦1.0A
Output Noise Voltage	V_N		52μV		10Hz≦f≦100KHz T_j=25°C
Ripple Rejection	RR	54dB	72dB		f=120Hz
Dropout Voltage	V_d		2.0V		I_O=1.0A, T_j=25°C
Output Short Circuit Current	R_O		16mohm		f=1.0KHz
Output Short Circuit Current	I_{OS}		450mA		T_j=25°C
Peak Output Current	I_{opeak}		2.2A		T_j=25°C
Temperature Coefficient of Output voltage	$\triangle V_O/\triangle Tj$		1.8mV/°C		0°C≦Tj≦125°C, I_O=5mA

TO-220



PIN 1. INPUT
PIN 2. GND
PIN 3. OUTPUT

DIMENSIONS					
	INCHES		MM		
DIM	MIN	MAX	MIN	MAX	NOTE
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	

Representation Schematic Diagram