

7809 • THREE-TERMINAL POSITIVE VOLTAGE REGULATOR IC

FEATURES:

- OUTPUT CURRENT IN EXCESS OF 1A;
- NO EXTERNAL COMPONENTS REQUIRED;
- INTERNAL SHORT CIRCUIT CURRENT LIMITING;
- INTERNAL THERMAL OVERLOAD PROTECTION;
- OUTPUT TRANSISTOR SAFE-AREA COMPENSATION;
- OUTPUT VOLTAGE OFFERED IN 4% TOLERANCE.

ABSOLUTE MAXIMUM RATINGS (Ta= 25° C)

Characteristic	Symbol	Norm	Unit
Input Voltage	V _{in}	V	35
Maximum Dissipated Power(with heat sink)	P _{tot(max)}	W	15
Maximum Dissipated Power(without heat sink)	P _{tot(max)}	W	1.5
Thermal Resistance Junction to Case	O _{jC}	°C/W	5.0
Thermal Resistance, Junction to Air	O _{jA}	°C/W	65
Junction Temperature	T _j	°C	150

T_c = -45 ÷ +70°C

ELECTRICAL CHARACTERISTICS

(V_{in}=15V, I_o=0.5A, C_i=0.33mkF, C_o=0.1mkF, T_j=0+125°C, unless otherwise noted.)

Characteristic	Symbol	Norm			Unit
		Min	TYP	Max	
Output Voltage(T _j =25°C)	V _o	8.65		9.35	V
Output Voltage (5.0mA ≤ I _o ≤ 1.0A, P _o ≤ 15W) 11.5V ≤ V _{in} ≤ 24V	V _o	8.55		9.45	V
Line Regulation(T _j =+25°C) 11.5 V ≤ V _{in} ≤ 26 V 11.5 ≤ V ≤ V _{in} ≤ 17 V	ΔV _v			90 180	mV
Load Regulation(T _j =+25°C) 5.0mA ≤ I _o ≤ 1.5A 0.25A ≤ I _o ≤ 0.75A	ΔV _i			180 90	mV
Quiescent Current(T _j =+25°C)	I _b			8.0	mA
Quiescent Current Change 11,5 V ≤ V _{in} ≤ 26 V 5.0mA ≤ I _o ≤ 1.0 A	ΔI _b			1.0 0.5	mA
Dropout Voltage (I _o =1.0A, T _j =+25°C)	V _i -V _o		2.0		V
Short Circuit Current Limit(T _a =+25°C), V _{in} =35V	I _{sc}		0.4		A
Peak Output Current(T _j =+25°C)	I _{max}		2.2		A
Average Temperature Coefficient of Output Voltage	TCV _o		0.6		mV/°C

