

Electrical Characteristics (LM7806)

Refer to the test circuit, $-40^{\circ}\text{C} < T_J < 125^{\circ}\text{C}$, $I_O = 500\text{ mA}$, $V_I = 11\text{ V}$, $C_I = 0.33\text{ }\mu\text{F}$, $C_O = 0.1\text{ }\mu\text{F}$, unless otherwise specified.

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit	
V_O	Output Voltage	$T_J = +25^{\circ}\text{C}$	5.75	6.00	6.25	V	
		$I_O = 5\text{ mA to }1\text{ A}$, $P_O \leq 15\text{ W}$, $V_I = 8.0\text{ V to }21\text{ V}$	5.70	6.00	6.30		
Regline	Line Regulation ⁽⁴⁾	$T_J = +25^{\circ}\text{C}$	$V_I = 8\text{ V to }25\text{ V}$		5.0	120.0	mV
			$V_I = 9\text{ V to }13\text{ V}$		1.5	60.0	
Regload	Load Regulation ⁽⁴⁾	$T_J = +25^{\circ}\text{C}$	$I_O = 5\text{ mA to }1.5\text{ A}$		9.0	120.0	mV
			$I_O = 250\text{ mA to }750\text{ mA}$		3.0	60.0	
I_Q	Quiescent Current	$T_J = +25^{\circ}\text{C}$		5	8	mA	
ΔI_Q	Quiescent Current Change	$I_O = 5\text{ mA to }1\text{ A}$			0.5	mA	
		$V_I = 8\text{ V to }25\text{ V}$			1.3		
$\Delta V_O/\Delta T$	Output Voltage Drift ⁽⁵⁾	$I_O = 5\text{ mA}$		-0.8		mV/ $^{\circ}\text{C}$	
V_N	Output Noise Voltage	$f = 10\text{ Hz to }100\text{ kHz}$, $T_A = +25^{\circ}\text{C}$		45		μV	
RR	Ripple Rejection ⁽⁵⁾	$f = 120\text{ Hz}$, $V_I = 8\text{ V to }18\text{ V}$	62	73		dB	
V_{DROP}	Dropout Voltage	$T_J = +25^{\circ}\text{C}$, $I_O = 1\text{ A}$		2		V	
R_O	Output Resistance ⁽⁵⁾	$f = 1\text{ kHz}$		19		m Ω	
I_{SC}	Short-Circuit Current	$T_J = +25^{\circ}\text{C}$, $V_I = 35\text{ V}$		250		mA	
I_{PK}	Peak Current ⁽⁵⁾	$T_J = +25^{\circ}\text{C}$		2.2		A	

Notes:

- Load and line regulation are specified at constant junction temperature. Changes in V_O due to heating effects must be taken into account separately. Pulse testing with low duty is used.
- These parameters, although guaranteed, are not 100% tested in production.