

**Electrical Characteristics (LM7815)**

Refer to the test circuit,  $-40^{\circ}\text{C} < T_J < 125^{\circ}\text{C}$ ,  $I_O = 500\text{ mA}$ ,  $V_I = 23\text{ V}$ ,  $C_I = 0.33\text{ }\mu\text{F}$ ,  $C_O = 0.1\text{ }\mu\text{F}$ , unless otherwise specified.

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit	
$V_O$	Output Voltage	$T_J = +25^{\circ}\text{C}$	14.40	15.00	15.60	V	
		$I_O = 5\text{ mA to }1\text{ A}$ , $P_O \leq 15\text{ W}$ , $V_I = 17.5\text{ V to }30\text{ V}$	14.25	15.00	15.75		
Regline	Line Regulation <sup>(14)</sup>	$T_J = +25^{\circ}\text{C}$	$V_I = 17.5\text{ V to }30\text{ V}$		11	300	mV
			$V_I = 20\text{ V to }26\text{ V}$		3	150	
Regload	Load Regulation <sup>(14)</sup>	$T_J = +25^{\circ}\text{C}$	$I_O = 5\text{ mA to }1.5\text{ A}$		12	300	mV
			$I_O = 250\text{ mA to }750\text{ mA}$		4	150	
$I_Q$	Quiescent Current	$T_J = +25^{\circ}\text{C}$		5.2	8.0	mA	
$\Delta I_Q$	Quiescent Current Change	$I_O = 5\text{ mA to }1\text{ A}$			0.5	mA	
		$V_I = 17.5\text{ V to }30\text{ V}$			1.0		
$\Delta V_O/\Delta T$	Output Voltage Drift <sup>(15)</sup>	$I_O = 5\text{ mA}$		-1		mV/ $^{\circ}\text{C}$	
$V_N$	Output Noise Voltage	$f = 10\text{ Hz to }100\text{ kHz}$ , $T_A = +25^{\circ}\text{C}$		90		$\mu\text{V}$	
RR	Ripple Rejection <sup>(15)</sup>	$f = 120\text{ Hz}$ , $V_I = 18.5\text{ V to }28.5\text{ V}$	54	70		dB	
$V_{\text{DROP}}$	Dropout Voltage	$I_O = 1\text{ A}$ , $T_J = +25^{\circ}\text{C}$		2		V	
$R_O$	Output Resistance <sup>(15)</sup>	$f = 1\text{ kHz}$		19		m $\Omega$	
$I_{\text{SC}}$	Short-Circuit Current	$V_I = 35\text{ V}$ , $T_J = +25^{\circ}\text{C}$		250		mA	
$I_{\text{PK}}$	Peak Current <sup>(15)</sup>	$T_J = +25^{\circ}\text{C}$		2.2		A	

**Notes:**

14. 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.
15. These parameters, although guaranteed, are not 100% tested in production.