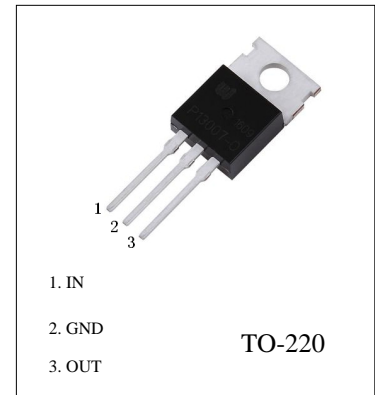


**FEATURES**

Output Current up to 1.5 A  
 Thermal Overload Protection  
 Short Circuit Protection  
 Output Transistor Safe Operating Area Protection

**7805**

**ABSOLUTE MAXIMUM RATINGS** (Operating temperature range applies)

Parameter	Symbol	Value	Unit
Input Voltage	$V_i$	35	V
Thermal resistance junction-air	$R_{JA}$	65	$^{\circ}\text{C}/\text{W}$
Thermal resistance junction-cases	$R_{JC}$	5	$^{\circ}\text{C}/\text{W}$
Operating Junction Temperature Range	TOPR	0-125	$^{\circ}\text{C}$
Storage Temperature Range	TSTG	-65-150	$^{\circ}\text{C}$

**ELECTRICAL CHARACTERISTICS** ( $V_i=10\text{V}, I_o=500\text{mA}, C_i=0.33\mu\text{F}, C_o=0.1\mu\text{F}$ , unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	$V_o$	$25^{\circ}\text{C}$	4.8	5.0	5.2	V
		7V $V_i$ 20V, $I_o=5\text{mA}-1\text{A}$ , P 15W	0-125 $^{\circ}\text{C}$	4.75	5.00	5.25
Load Regulation	$V_o$	$I_o=5\text{mA}-1.5\text{A}$	$25^{\circ}\text{C}$	9	100	mV
		$I_o=250\text{mA}-750\text{mA}$	$25^{\circ}\text{C}$	4	50	mV
Line regulation	$V_o$	7V $V_i$ 25V	$25^{\circ}\text{C}$	4	100	mV
		8V $V_i$ 12V	$25^{\circ}\text{C}$	1.6	50	mV
Quiescent Current	$I_q$		$25^{\circ}\text{C}$	5	8	mA
Quiescent Current Change	$I_q$	7V $V_i$ 25V	0-125 $^{\circ}\text{C}$	0.3	1.3	mA
		5mA $I_o$ 1A	0-125 $^{\circ}\text{C}$	0.03	0.5	mA
Output Noise Voltage	$V_N$	10Hz f 100KHz	$25^{\circ}\text{C}$	42		$\mu\text{V}$
Output voltage drift	$V_o/ T$	$I_o=5\text{mA}$	0-125 $^{\circ}\text{C}$	-1.1		$\text{mV}/^{\circ}\text{C}$
Ripple Rejection	RR	8V $V_i$ 18V, f=120Hz	0-125 $^{\circ}\text{C}$	62	73	dB
Dropout Voltage	$V_d$	$I_o=1\text{A}$	$25^{\circ}\text{C}$	2		V
Output resistance	$R_o$	f=1KHz	$25^{\circ}\text{C}$	10		m
Short Circuit Current	$I_{sc}$		$25^{\circ}\text{C}$	230		mA
Peak Current	$I_{pk}$		$25^{\circ}\text{C}$	2.2		A

7805 Typical Performance Characteristics

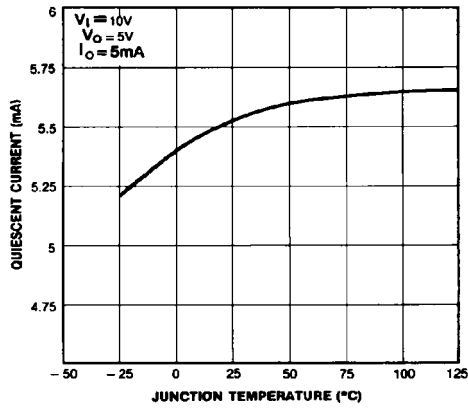


Figure 1. Quiescent Current

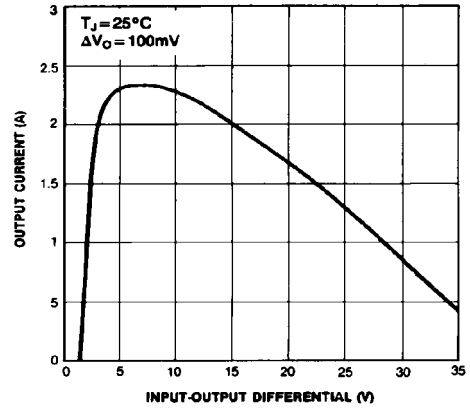


Figure 2. Peak Output Current

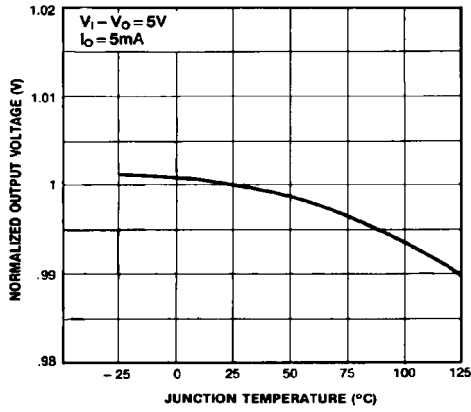


Figure 3. Output Voltage

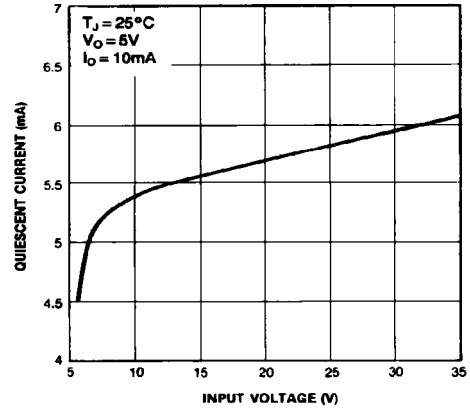


Figure 4. Quiescent Current