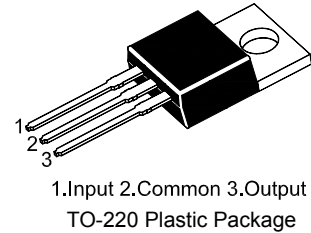


3-Terminal 1 A Positive Voltage Regulator

Features

- Output Current up to 1 A
- Thermal Overload Protection
- Short Circuit Protection
- Output Transistor Safe Operating Area Protection



Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

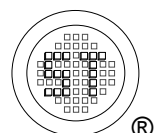
Parameter	Symbol	Value	Unit
Input Voltage	V_I	35	V
Thermal Resistance Junction-Cases	$R_{\theta JC}$	5	$^\circ\text{C/W}$
Thermal Resistance Junction-Air	$R_{\theta JA}$	65	$^\circ\text{C/W}$
Operating Temperature Range	T_{OPR}	0 to + 125	$^\circ\text{C}$
Storage Temperature Range	T_S	- 65 to + 150	$^\circ\text{C}$

Electrical Characteristics

($0^\circ\text{C} < T_J < 125^\circ\text{C}$, $I_O = 500\text{ mA}$, $V_I = 16\text{ V}$, $C_I = 0.33\text{ }\mu\text{F}$, $C_O = 0.1\text{ }\mu\text{F}$, unless otherwise specified)

Parameter	Symbol	Conditions		Min.	Typ.	Max.	Unit
Output Voltage	V _O	T _J = 25°C		9.6	10	10.4	V
		5 mA ≤ I _O ≤ 1 A, P _O ≤ 15 W V _I = 12.5 V to 25 V		9.5	10	10.5	
Line Regulation ¹⁾	Regline	T _J = 25°C	V _I = 12.5 V to 25 V	-	-	200	mV
			V _I = 13 V to 20 V	-	-	100	
Load Regulation ¹⁾	Regload	T _J = 25°C	I _O = 5 mA to 1.5 A	-	-	200	mV
			I _O = 250 mA to 750 mA	-	-	100	
Quiescent Current	I _Q	T _J = 25°C		-	-	8	mA
Quiescent Current Change	ΔI _Q	I _O = 5 mA to 1 A		-	-	0.5	mA
		V _I = 13 V to 29 V		-	-	1	
Output Voltage Drift	ΔV _O /ΔT	I _O = 5 mA		-	-1	-	mV/°C
Output Noise Voltage	V _N	f = 10 Hz to 100 KHz, T _a = 25°C		-	58	-	μV
Ripple Rejection	RR	f = 120 Hz, V _I = 14 V to 24 V		56	-	-	dB
Dropout Voltage	V _{Drop}	I _O = 1 A, T _J = 25°C		-	2	-	V
Output Resistance	R _O	f = 1 KHz		-	17	-	mΩ
Short Circuit Current	I _{SC}	V _I = 35 V, T _a = 25°C		-	250	-	mA
Peak Current	I _{PK}	T _J = 25°C		-	2.2	-	A

¹⁾ 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.



Typical Performance Characteristics

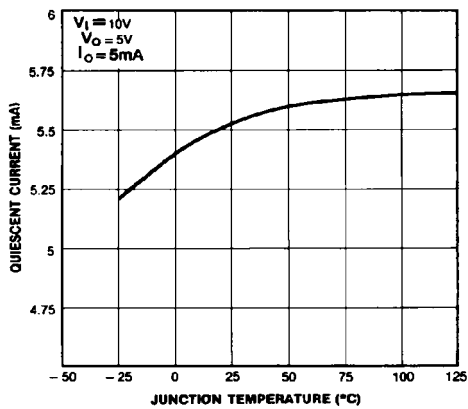


Figure 1. Quiescent Current

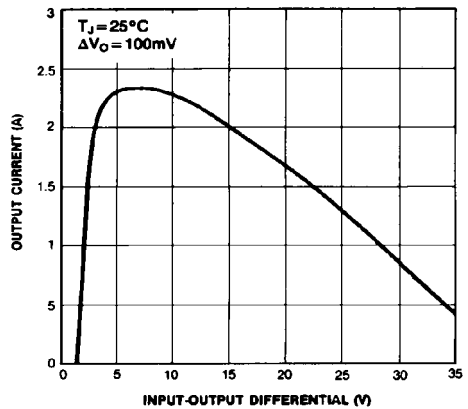


Figure 2. Peak Output Current

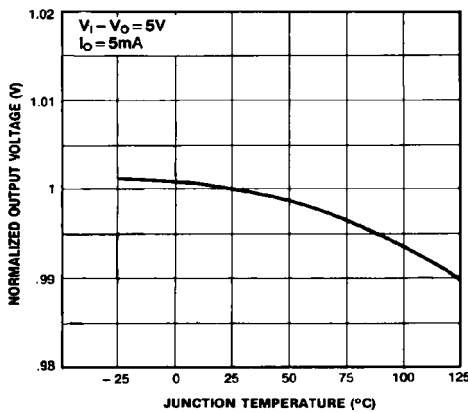


Figure 3. Output Voltage

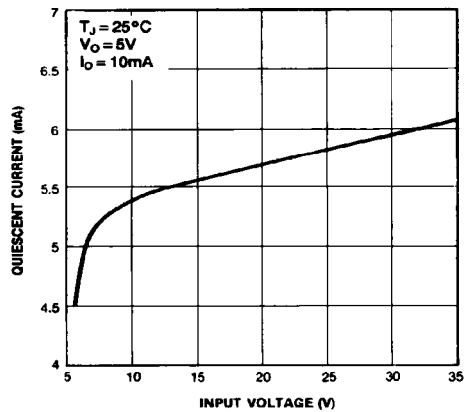
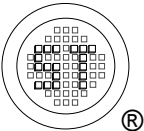


Figure 4. Quiescent Current



TO-220 PACKAGE OUTLINE

