

Three-terminal positive  
voltage regulator

**Features:**

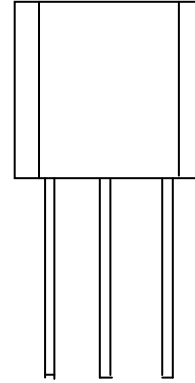
- Output Current up to 1.5A.
- Output Voltages of 5 V.
- Output Transistor Safe Operating Area Protection.
- Thermal Overload Protection.
- Short Circuit Protection.

**TO-92**

**1.OUT**

**2.GND**

**3.IN**



**1 2 3**

**Absolute Maximum Ratings**

PARAMETER	SYMBOL	RATING	UNIT
Input Voltage	$V_I$	35	V
Operating Temperature Range	$T_J$	0~125	°C
Storage Temperature Range	$T_{STG}$	-65~150	°C

**Electrical Characteristics**

( $0^{\circ}\text{C} \leq T_J \leq 125^{\circ}\text{C}$ ,  $I_O=500\text{mA}$ ,  $V_I=10\text{V}$ ,  $C_I=0.33\mu\text{F}$ ,  $C_O=0.1\mu\text{F}$ , unless otherwise specified)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Output Voltage	$V_{out}$	4.8	5.0	5.2	V	$T_J=25^{\circ}\text{C}$
		4.75	5	5.25	V	$V_{in}: 7\text{V} \sim 20\text{V}$ , $I_o: 1\text{mA} \sim 40\text{mA}$
		4.75	5	5.25	V	$V_{in}=10\text{V}$ , $I_o: 1\text{mA} \sim 70\text{mA}$
Line Regulation	$\Delta V_{out}$		6	150	mV	$T_J=25^{\circ}\text{C}$ , $V_{in}: 7\text{V} \sim 20\text{V}$ , $I_o=40\text{mA}$
			4	100	mV	$T_J=25^{\circ}\text{C}$ , $V_{in}: 8\text{V} \sim 20\text{V}$ , $I_o=40\text{mA}$
Load Regulation	$\Delta V_{out}$		9	60	mV	$T_J=25^{\circ}\text{C}$ , $I_o: 1\text{mA} \sim 100\text{mA}$ , $V_{in}=10\text{V}$
			4	30	mV	$T_J=25^{\circ}\text{C}$ , $I_o: 1\text{mA} \sim 40\text{mA}$ , $V_{in}=10\text{V}$
Quiescent Current	$I_Q$		2.3	5.5	mA	$T_J=25^{\circ}\text{C}$ , $V_{in}=10\text{V}$ , $I_o=40\text{mA}$
Quiescent Current Change	$\Delta I_Q$			1.5	mA	$V_{in}: 8\text{V} \sim 20\text{V}$ , $I_o=40\text{mA}$
				0.1	mA	$I_o: 1\text{mA} \sim 40\text{mA}$ , $V_{in}=10\text{V}$
Output Noise Voltage	$V_N$		45	120	$\mu\text{V}$	$f: 10\text{Hz} \sim 100\text{KHz}$
Ripple Rejection	$R_R$	55	75		dB	$T_J=25^{\circ}\text{C}$ , $V_{in}: 8\text{V} \sim 20\text{V}$ , $f=120\text{Hz}$
Dropout Voltage	$V_D$		1.7		V	$T_J=25^{\circ}\text{C}$
Short Circuit Current	$I_{os}$		88		mA	$T_a=25^{\circ}\text{C}$ , $V_{in}=20\text{V}$
Peak Current	$I_{pk}$	125	160	205	mA	$T_J=25^{\circ}\text{C}$