

Voltage regulator

STANDARD TEMPERATURE RANGE, $0^{\circ}\text{C} \div 70^{\circ}\text{C}$

- OUTPUT CURRENT $> 500\text{ mA}$
- TIGHT TOLERANCE FOR OUTPUT VOLTAGE
- LOAD REGULATION LESS THAN 1%
- RIPPLE REJECTION 61 dB TYP.
- OVERLOAD AND SHORT CIRCUIT PROTECTION

ORDERING NUMBER
L036 TI

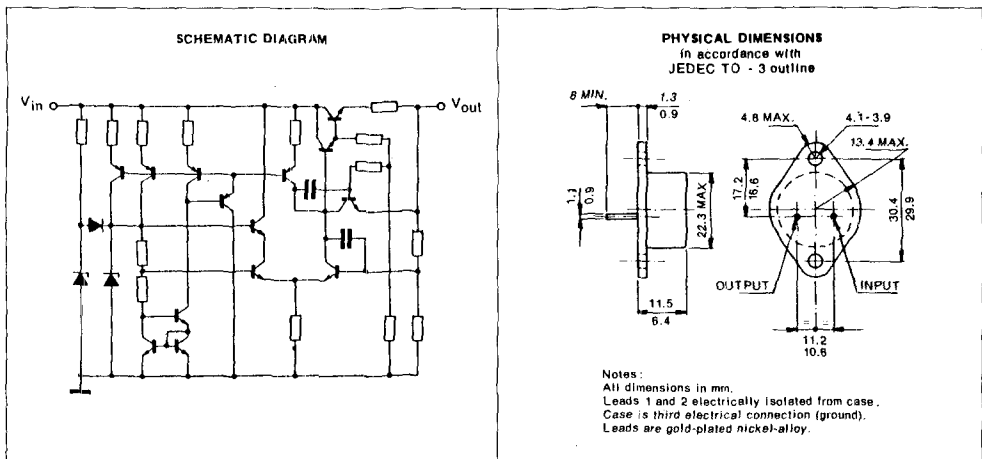
The L036 TI is a monolithic 12V voltage regulator which can supply more than 500 mA.

The device features high temperature stability, internal overload and short circuit protection, low output impedance and excellent transient response.

The L036 TI is intended for use as voltage supply for digital circuit with high noise immunity, linear integrated circuits and for any other industrial application.

ABSOLUTE MAXIMUM RATINGS

Input Voltage	27V
Power Dissipation (free air, $T_A = 25^{\circ}\text{C}$)	3.25W
Power Dissipation (with infinite heat sink, $T_C = 25^{\circ}\text{C}$)	12.75W
Storage Temperature Range	$-55^{\circ}\text{C} - 150^{\circ}\text{C}$
Operating Temperature Range	$0^{\circ}\text{C} - 70^{\circ}\text{C}$

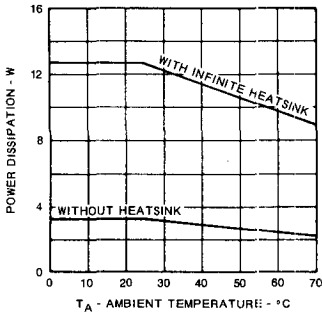


ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$ unless otherwise noted)

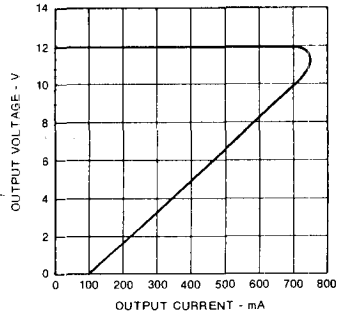
PARAMETER	CONDITIONS	Min.	Typ.	Max.	Unit
Output Voltage	$V_{in} = 14.5 \div 27\text{V}$, $I_L = 10\text{ mA}$, $C_L = 10\ \mu\text{F}$	11.4	12	12.6	V
Load Regulation	$V_{in} = 21\text{V}$, $I_L = 0 \div 500\text{ mA}$		0.3	1	% V_{out}
Regulated Output Current	$V_{in} = 21\text{V}$, $\frac{\Delta V_{out}}{V_{out}} \leq 1\%$	500	720		mA
Maximum Output Current	$V_{in} = 21\text{V}$		750	1000	mA
Output Resistance	$V_{in} = 21\text{V}$, $I_L = 500\text{ mA}$		20		$\text{m}\Omega$
Line Regulation	$V_{in} = 14.5 \div 21\text{V}$, $C_L = 10\ \mu\text{F}$, $I_L = 10\text{ mA}$		0.1	0.5	%
Ripple Rejection	$V_{in} = 19\text{V}$, $\Delta V_{in} = 4\text{ V}_{pp}$, $f = 100\text{ Hz}$, $I_L = 10\text{ mA}$	46	60		dB
Output Noise Voltage	$V_{in} = 21\text{V}$, $I_L = 10\text{ mA}$, $C_L = 20\ \mu\text{F}$, $\text{BW} = 10\text{Hz} \div 100\text{ KHz}$		0.15		mV
Standby Current	$V_{in} = 27\text{V}$, $I_L = 0$		10		mA
Temperature Coefficient	$V_{in} = 21\text{V}$, $I_L = 10\text{ mA}$, $T_A = 0^\circ\text{C} \div 60^\circ\text{C}$		003		%/ $^\circ\text{C}$
Short Circuit Current	$V_{in} = 21\text{V}$, $V_{out} = 0$		100	200	mA

TYPICAL ELECTRICAL CHARACTERISTICS

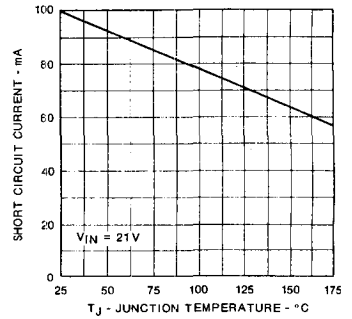
MAX ALLOWABLE POWER DISSIPATION
VERSUS AMBIENT TEMPERATURE



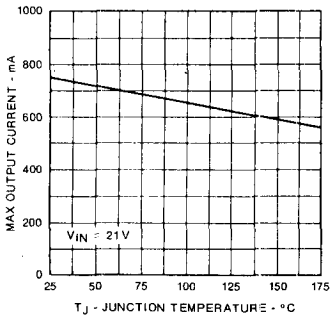
OUTPUT VOLTAGE VERSUS OUTPUT CURRENT



SHORT CIRCUIT CURRENT
VERSUS JUNCTION TEMPERATURE



MAX OUTPUT CURRENT VERSUS
JUNCTION TEMPERATURE



TYPICAL APPLICATION CIRCUIT

