



# Voltage Regulators

## LM376 voltage regulator

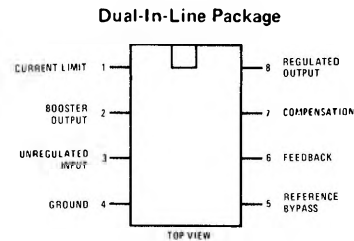
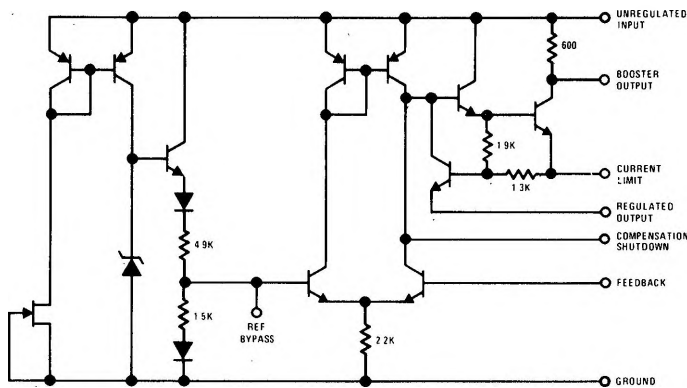
### general description

The LM376 is a positive voltage regulator for use in consumer products. The characteristics of the LM376 are:

- Output Voltage Range +5 to 27V

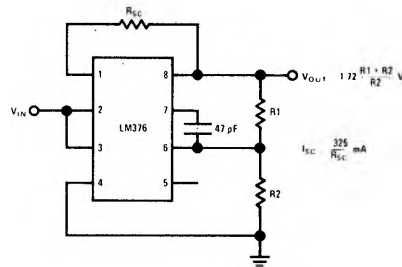
- Output Current 25 mA
- Load Regulation 1%
- Line Regulation 0.4%/V

### simplified schematic and connection diagrams

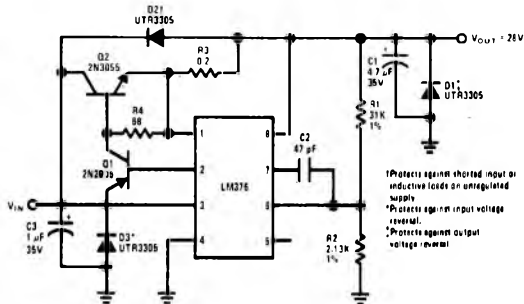


### typical applications

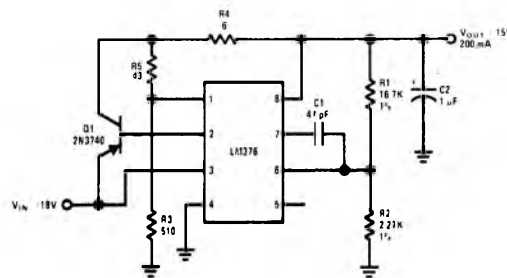
Basic Positive Regulator with Current Limiting



1.0A Regulator with Protective Diodes



Linear Regulator with Foldback Current Limiting



**absolute maximum ratings**

Input Voltage	30V
Input-Output Voltage Differential	30V
Power Dissipation (Note 1)	400 mW
Operating Temperature Range	0°C to 70°C
Storage Temperature Range	-65°C to +150°C
Lead Temperature (Soldering, 10 sec)	300°C

**electrical characteristics** (Note 2)

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Input Voltage Range		9.0		30	V
Output Voltage Range		5.0		27	V
Output-Input Voltage Differential		3.0		25	V
Load Regulation	$0 \leq I_O \leq 25 \text{ mA}$ $R_{SC} = 0\Omega, T_A = 25^\circ\text{C}$ $R_{SC} = 0\Omega, T_A = 70^\circ\text{C}$ $R_{SC} = 0\Omega, T_A = 0^\circ\text{C}$			1.0 1.5 1.5	% % %
Line Regulation				0.4	%/V
Ripple Rejection	$f = 120 \text{ Hz}$			0.4	%/V
Standby Current Drain	$V_{IN} = 30\text{V}$			2.5	mA
Reference Voltage			1.72		V
Current Limit Sense Voltage			.325		V

**Note 1:** For operating at elevated temperatures, the device must be derated based on a 100°C maximum junction temperature and a thermal resistance of 187°C/W junction to ambient.

**Note 2:** These specifications apply for an operating temperature between 0°C and 70°C.