

Description

This series of fixed-voltage monolithic integrated-circuit voltage regulators is designed for a wide range of applications. These applications include on-card regulation for elimination of noise and distribution problems associated with single-point regulation. In addition, they can be used with power-pass elements to make high-current voltage regulators. Each of these regulators can deliver up to 100 mA of output current. The internal limiting and thermal shutdown features of these regulators make them essentially immune to overload. When used as a replacement for a Zener diode-resistor combination, an effective improvement in output impedance can be obtained together with lower-bias current.

Features

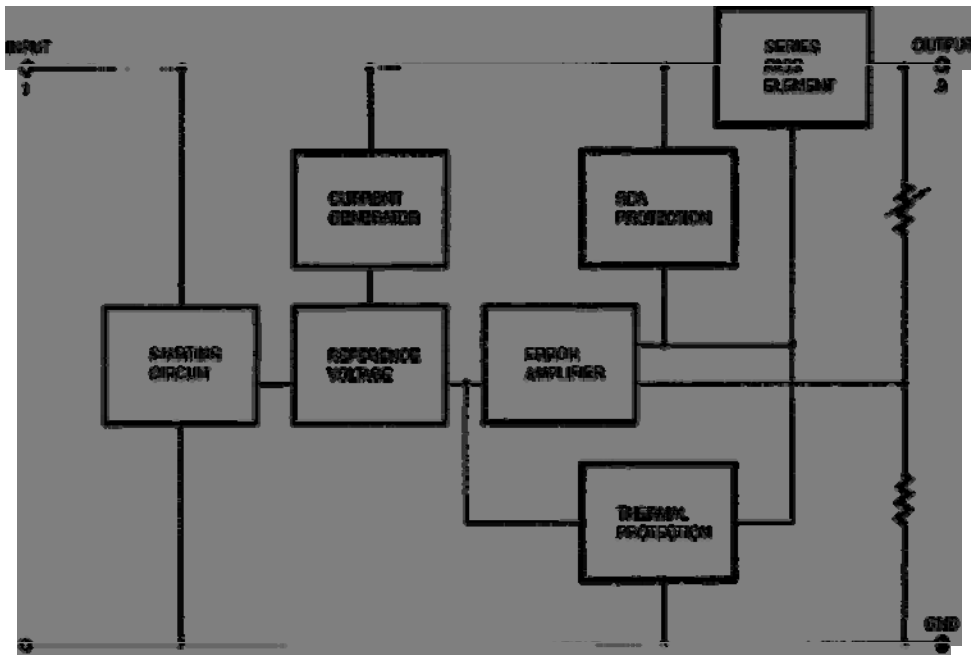
- Output current in excess of 100 mA
- No external components required
- Internal short circuit current limiting
- Internal thermal overload protection
- Available in either 5% selections



Package TO-92
(top view)

Package

Internal Block Diagram



Absolute Maximum Ratings

Maximum Input Voltage: 30V

Operation Junction Temperature Range: -40 °C to 125 °C

Electrical Characteristics

($V_{in} = 10V$, $I_o = 40mA$, $C_i = 0.33\mu F$, $C_o = 0.1\mu F$, $T_j = +25^\circ C$, unless otherwise noted)

Characteristics	Symbol	Test Condition	min	max	Unit
Output Voltage	V_o	$7.0V \leq V_{in} \leq 20V$; $1.0mA \leq I_o \leq 40mA$ $1.0mA \leq I_o \leq 70mA$	4.85 4.85	5.15 5.15	V
Line Regulation	ΔV_v	$7.0V \leq V_{in} \leq 20V$	-	135	mV
		$8.0V \leq V_{in} \leq 20V$	-	90	
Load Regulation	ΔV_i	$1.0mA \leq I_o \leq 100mA$	-	54	mV
		$1.0mA \leq I_o \leq 40mA$	-	27	
Quiescent Current	I_b		-	5.8	mA
Quiescent Current Change	ΔI_b	$8.0V \leq V_{in} \leq 20V$ $1.0mA \leq I_o \leq 40mA$	- -	1.4 0.09	mA

Typical Applications Circuit

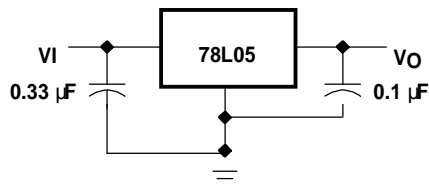


Figure 1. Fixed-Output Regulator

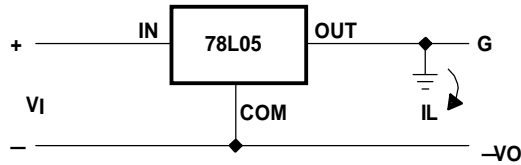


Figure 2. Positive Regulator in Negative Configuration (VI Must Float)

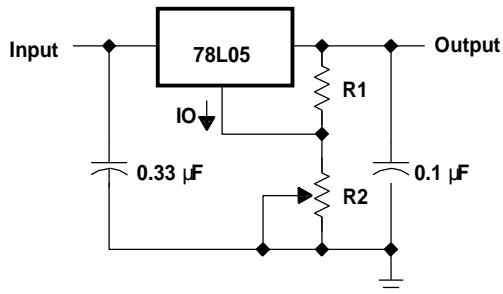


Figure 3. Adjustable-Output Regulator

Ordering Information

ORDERING NUMBER	PACKAGE	MARKING
78L05	TO - 92	ET78L05

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