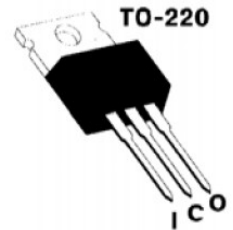
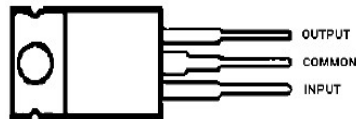


## Description

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 associated with single-point regulation. In addition, they can be used with power-pass elements to make high-current voltage regulators. Each The internal of these regulators can deliver up to 1.0 A of output current.

## Features

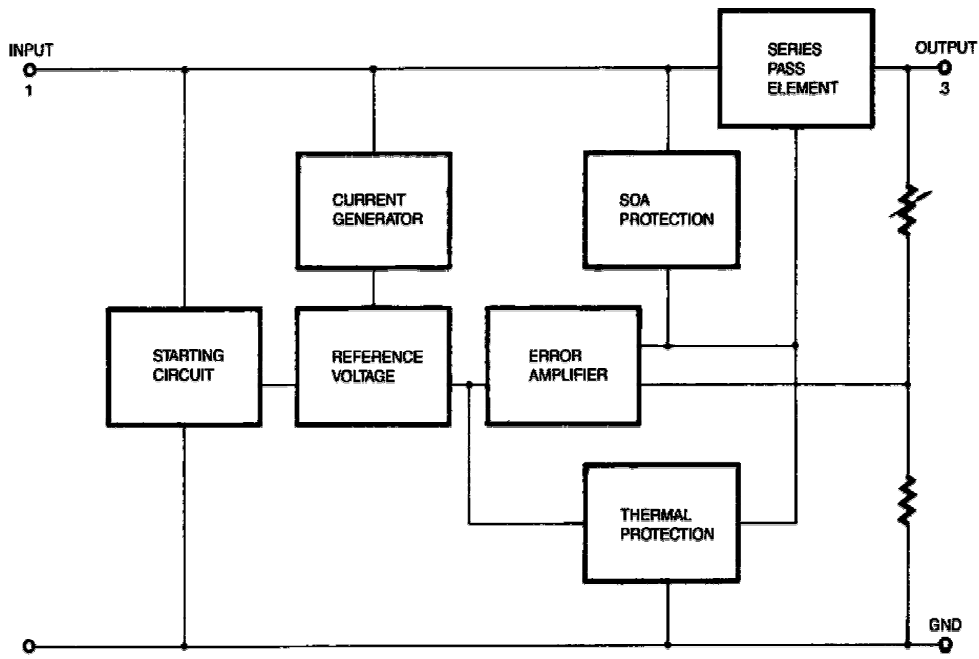
- Output Current in Excess of 1.0A
- No External Components Required
- Internal Short Circuit Current Limiting
- Internal Thermal Overload Protection
- Output Transistor Safe-Area Compensation
- Output Voltage Offered in 4% Tolerance



Package TO-220  
(top view)

## Package

## Internal Block Diagram



## Absolute Maximum Ratings

Maximum Input Voltage: 35V

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

## Electrical Characteristics

( $V_{in}=10V$ ,  $I_o=0.5A$ ,  $C_i=0.33\mu F$ ,  $C_o=0.1\mu F$ ,  $T_j=25^\circ$ , unless otherwise noted.)

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Characteristic	Symbol	Test Condition	Min	Max	Unit
Output Voltage	$V_o$		4.8	5.2	V
Output Voltage	$V_o$	$5.0mA \leq I_o \leq 1.0A$ ; $7.0V \leq V_{in} \leq 20V$ $0^\circ C \leq T_j \leq 125^\circ C$	4.75	5.25	V
Line Regulation	$\Delta V_v$	$7V \leq V_{in} \leq 25V$ ; $8V \leq V_{in} \leq 12V$	-	100 50	mV
Load Regulation	$\Delta V_i$	$5.0mA \leq I_o \leq 1.5A$ $0.25A \leq I_o \leq 0.75A$	-	100 50	mV
Quiescent Current	$I_b$		-	8.0	mA
Quiescent Current Change	$\Delta I_b$	$7V \leq V_{in} \leq 25V$ , $5mA \leq I_o \leq 1.0A$	-	1.3 0.5	mA

## Typical Applications Circuit

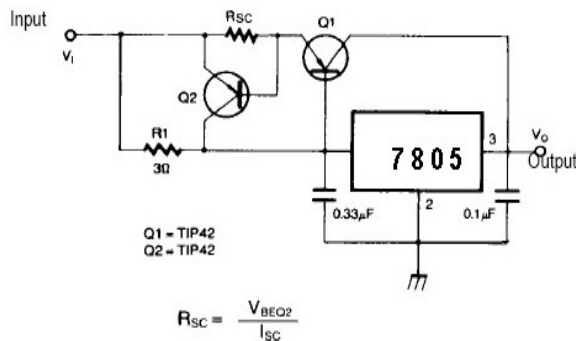
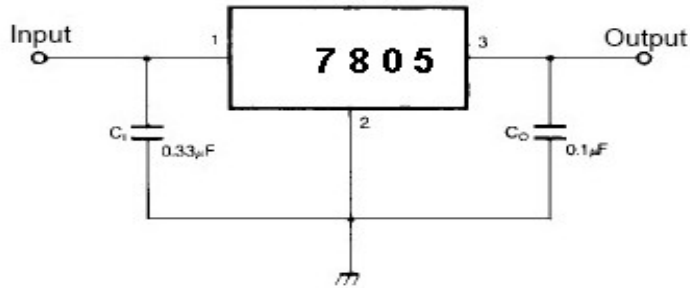
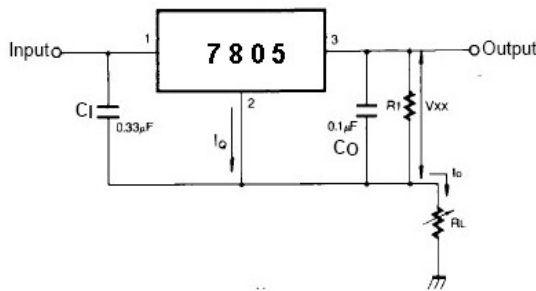


Figure 1. High Output Current with Short Circuit Protection


**Figure 2. DC Parameters**


$$I_o = \frac{V_{xx}}{R_1} + I_q$$

**Figure 3. Constant Current Regulator**

## Ordering Information

ORDERING NUMBER	PACKAGE	MARKING
7805	TO - 220	ET7805

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