



H78L05

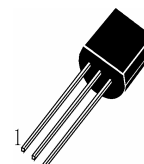
Description

H78L05 is the three terminal positive Regulators with single chip, and in a wide range of applications. It supplies fixed output voltages of 5V, deliver over 100mA output current ,and employs internal current limiting, thermal shut down and safe operating area protection, making it essentially indestructible.

Features

- Output current up to 100mA
- Low noise
- High Ripple Rejection
- Power Amplify Output Protection
- Thermal Overload Protection
- Current Overload Protection and Short Circuit Protection

TO-92

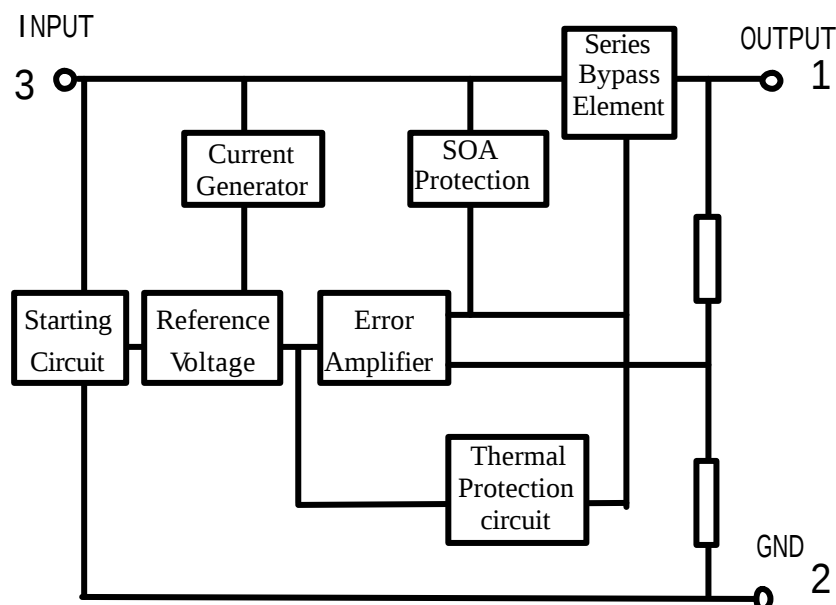


1—OUTPUT
2—GND
3—INPUT

Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

V_{IN} —Input Voltage.....	30V
P_D —Power of Dissipation	700mW
T_{amb} —Operating Temperature Range.....	-20~85
T_{stg} —Storage Temperature Range.....	-55~150
T_j —Junction Temperature.....	-55~150
R_{th} —thermal resistance (junction to environment)	180 /W

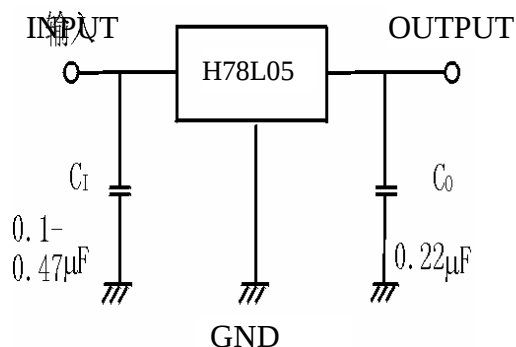
Internal Block Diagram





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Typical Application



ELECTRICAL CHARACTERISTICS

(Unless otherwise specified, $V_{IN}=10V$, $I_o=40mA$, $0 \leq T_j \leq 125$, $C_{IN}=0.33 \mu F$, $C_{OUT}=0.1 \mu F$)

Symbol	Parameter	Min.	Typ.	Max.	Unit	Conditions
V_o	Output Voltage	4.8	5.0	5.2	V	$T_j=25$
		4.8		5.2		$7V \leq V_{IN} \leq 20V, 1mA \leq I_o \leq 40mA$
		4.8		5.2		$V_{IN}=10V, 1mA \leq I_o \leq 70mA$
ΔV_o	Line Regulation		6	150	mV	$T_j=25$, $7V \leq V_{IN} \leq 20V$
			4	100		$T_j=25$, $8V \leq V_{IN} \leq 20V$
ΔV_o	Load Regulation		9	60	mV	$T_j=25$, $1mA \leq I_o \leq 100mA$
			4	30		$T_j=25$, $1mA \leq I_o \leq 40mA$
I_q	Quiescent Current		2.3	6.0	mA	$T_j=25$
ΔI_q	Quiescent Current Change			1.5	mA	$8V \leq V_{IN} \leq 20V, I_o=40mA$
				0.1		$V_{IN}=10V, 1mA \leq I_o \leq 40mA$
V_N	Output Noise Voltage		45	120	μV	$T_j=25$, $10Hz \leq f \leq 100kHz$
RR	Ripple Rejection	55	75		dB	$T_j=25$, $8V \leq V_{IN} \leq 18V$, $f=120Hz$
V_D	Dropout Voltage		1.7		V	$T_j=25$
I_{SC}	Short Circuit Current		88		mA	$T_j=25$, $V_{IN}=20V$
I_{PK}	Peak Current	125	160	205	mA	$T_j=25$
$\Delta V_o / \Delta T$	Temperature coefficient of V_o		0.4		mV/	$I_o=5mA$