



**HS7805** Three-terminal positive voltage regulator

TO-220



1.IN

2.GND

3.OUT

1 2 3

**FEATURES**

Maximum Output current  $I_{OM}$ : 1.5 A

Output voltage  $V_o$ : 5V

Continuous total dissipation

$P_D$ : 1.5 W ( $T_a = 25^\circ\text{C}$ )

15 W ( $T_c = 25^\circ\text{C}$ )

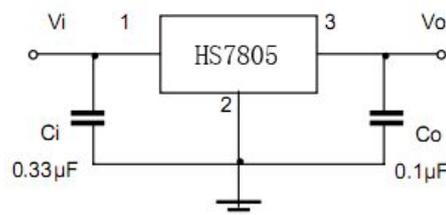
**ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)**

Parameter	Symbol	Value	Unit
Input Voltage	$V_i$	35	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	83.3	$^\circ\text{C/W}$
Thermal Resistance from Junction to Case	$R_{\theta JC}$	8.3	$^\circ\text{C/W}$
Operating Junction Temperature Range	$T_{OPR}$	0~+150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55~+150	$^\circ\text{C}$

**ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ( $V_i=10V, I_o=500mA, C_i=0.33\mu F, C_o=0.1\mu F$ , unless otherwise specified )**

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	$V_o$	$25^\circ\text{C}$	4.8	5.0	5.2	V
		$7V \leq V_i \leq 20V, I_o=5mA-1A, P \leq 15W$ $0-125^\circ\text{C}$	4.75	5.00	5.25	V
Load Regulation	$\Delta V_o$	$I_o=5mA-1.5A$ $25^\circ\text{C}$		9	100	mV
		$I_o=250mA-750mA$ $25^\circ\text{C}$		4	50	mV
Line regulation	$\Delta V_o$	$7V \leq V_i \leq 25V$ $25^\circ\text{C}$		4	100	mV
		$8V \leq V_i \leq 12V$ $25^\circ\text{C}$		1.6	50	mV
Quiescent Current	$I_q$	$25^\circ\text{C}$		5	8	mA
Quiescent Current Change	$\Delta I_q$	$7V \leq V_i \leq 25V$ $0-125^\circ\text{C}$		0.3	1.3	mA
		$5mA \leq I_o \leq 1A$ $0-125^\circ\text{C}$		0.03	0.5	mA
Output Noise Voltage	$V_N$	$10Hz \leq f \leq 100KHz$ $25^\circ\text{C}$		42		$\mu V$
Output voltage drift	$\Delta V_o / \Delta T$	$I_o=5mA$ $0-125^\circ\text{C}$		-1.1		$mV/^\circ\text{C}$
Ripple Rejection	RR	$8V \leq V_i \leq 18V, f=120Hz$ $0-125^\circ\text{C}$	62	73		dB
Dropout Voltage	$V_d$	$I_o=1A$ $25^\circ\text{C}$		2		V
Output resistance	$R_o$	$f=1KHz$ $25^\circ\text{C}$		10		$m\Omega$
Short Circuit Current	$I_{sc}$	$25^\circ\text{C}$		230		mA
Peak Current	$I_{pk}$	$25^\circ\text{C}$		2.2		A

**TYPICAL APPLICATION**



# Typical Characteristics

