



# TO-220-3L Plastic-Encapsulate Voltage Regulators

## L7805

Three-terminal positive voltage regulator

### FEATURES

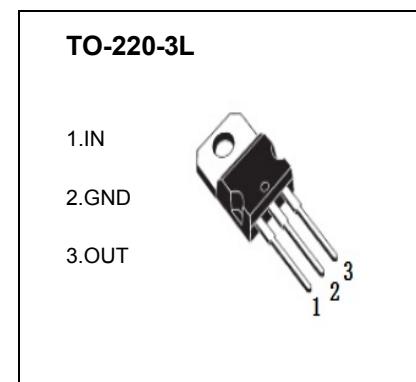
**Maximum Output current  $I_{OM}$ : 1.5 A**

**Output voltage  $V_o$ : 5V**

**Continuous total dissipation**

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

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



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

Parameter	Symbol	Value	Unit
Input Voltage	$V_i$	30	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	83.3	°C/W
Thermal Resistance from Junction to Case	$R_{\theta JC}$	8.3	°C/W
Operating Junction Temperature Range	$T_{OPR}$	0~+150	°C
Storage Temperature Range	$T_{STG}$	-55~+150	°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°C	4.8	5.0	5.2	V
		7V≤ $V_i$ ≤20V, $I_o=5mA-1A$ , $P\leq 15W$	0-125°C	4.75	5.00	5.25
Load Regulation	$\Delta V_o$	$I_o=5mA-1.5A$	25°C		9	mV
		$I_o=250mA-750mA$	25°C		4	mV
Line regulation	$\Delta V_o$	7V≤ $V_i$ ≤25V	25°C		4	mV
		8V≤ $V_i$ ≤12V	25°C		1.6	mV
Quiescent Current	$I_q$		25°C		5	mA
Quiescent Current Change	$\Delta I_q$	7V≤ $V_i$ ≤25V	0-125°C		0.3	mA
		5mA≤ $I_o$ ≤1A	0-125°C		0.03	mA
Output Noise Voltage	$V_N$	10Hz≤f≤100KHz	25°C		42	uV
Output voltage drift	$\Delta V_o/\Delta T$	$I_o=5mA$	0-125°C		-1.1	mV/°C
Ripple Rejection	$RR$	8V≤ $V_i$ ≤18V, f=120Hz	0-125°C	62	73	dB
Dropout Voltage	$V_d$	$I_o=1A$	25°C		2	V
Output resistance	$R_o$	f=1KHz	25°C		10	mΩ
Short Circuit Current	$I_{sc}$		25°C		230	mA
Peak Current	$I_{pk}$		25°C		2	A

### TYPICAL APPLICATION

