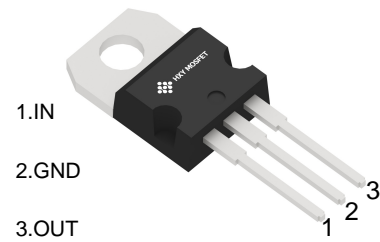




## Features

- Maximum output current  $I_{OM}$ : 1 A
- Output voltage  $V_O$ : 9V
- Continuous total dissipation  $P_D$ : 1.5 W ( $T_a = 25^\circ\text{C}$ )



## Maximum Ratings ( $T_a = 25^\circ\text{C}$ unless otherwise noted)

TO-220S

Parameter	Symbol	Value	Unit
Input Voltage	$V_i$	35	V
Thermal Resistance from Junction to Air	$R_{\theta JA}$	66.7	$^\circ\text{C/W}$
Operating Junction Temperature Range	$T_{OPR}$	-25~+125	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65~+150	$^\circ\text{C}$

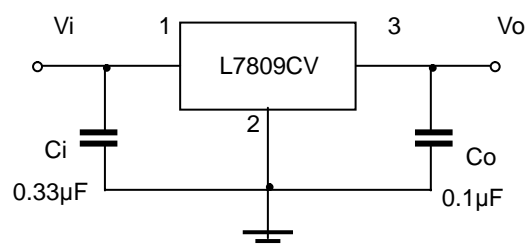
## Electrical Characteristics ( $T_a = 25^\circ\text{C}$ unless otherwise specified)

( $V_i = -16\text{V}$ ,  $I_o = 500\text{mA}$ ,  $C_i = 0.33\mu\text{F}$ ,  $C_o = 1\mu\text{F}$ , unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	$V_o$	$25^\circ\text{C}$	8.65	9	9.35	V
		$11.5\text{V} \leq V_i \leq 24\text{V}$ , $I_o = 5\text{mA} - 1\text{A}$ , $P \leq 15\text{W}$ $-25 - 125^\circ\text{C}$	8.55	9	9.45	V
Load Regulation	$\Delta V_o$	$I_o = 5\text{mA} - 1.5\text{A}$ $25^\circ\text{C}$		12	180	mV
		$I_o = 250\text{mA} - 750\text{mA}$ $25^\circ\text{C}$		4	90	mV
Line regulation	$\Delta V_o$	$11.5\text{V} \leq V_i \leq 27\text{V}$ $25^\circ\text{C}$		7	180	mV
		$13\text{V} \leq V_i \leq 19\text{V}$ $25^\circ\text{C}$		2	90	mV
Quiescent Current	$I_q$	$25^\circ\text{C}$		4.3	8	mA
Quiescent Current Change	$\Delta I_q$	$11.5\text{V} \leq V_i \leq 27\text{V}$ $-25 - 125^\circ\text{C}$			1	mA
		$5\text{mA} \leq I_o \leq 1\text{A}$ $-25 - 125^\circ\text{C}$			0.5	mA
Output voltage drift	$\Delta V_o / \Delta T$	$I_o = 5\text{mA}$ $-25 - 125^\circ\text{C}$		-1		mV/ $^\circ\text{C}$
Output Noise Voltage	$V_N$	$10\text{Hz} \leq f \leq 100\text{KHz}$ $25^\circ\text{C}$		60		$\mu\text{V}/V_o$
Ripple Rejection	RR	$12\text{V} \leq V_i \leq 22\text{V}$ , $f = 120\text{Hz}$ $-25 - 125^\circ\text{C}$	55	70		dB
Dropout Voltage	$V_d$	$I_o = 1\text{A}$ $25^\circ\text{C}$		2		V
Output resistance	$R_o$	$f = 1\text{KHz}$ $25^\circ\text{C}$		18		$\text{m}\Omega$
Short Circuit Current	$I_{sc}$	$25^\circ\text{C}$		400		mA
Peak Current	$I_{pk}$	$25^\circ\text{C}$		2.2		A

\* Pulse test.

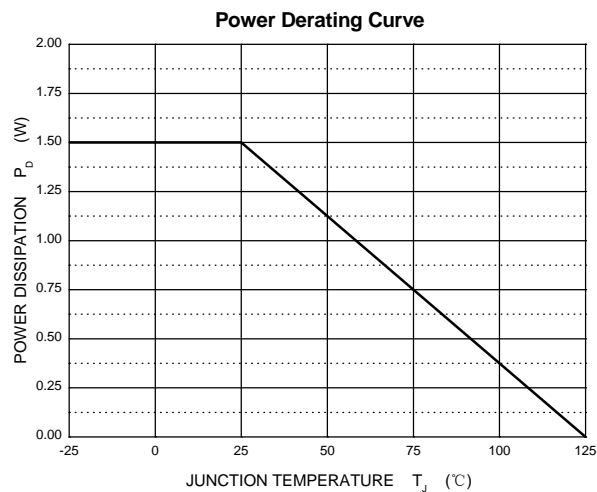
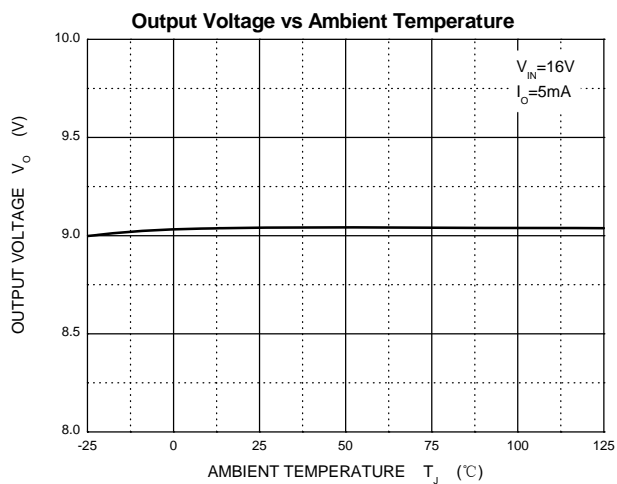
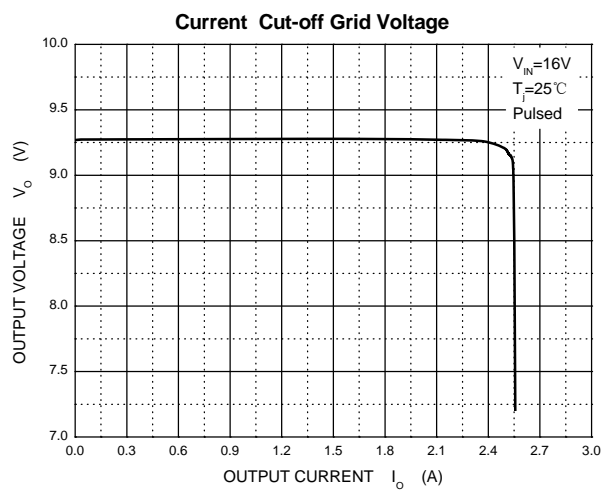
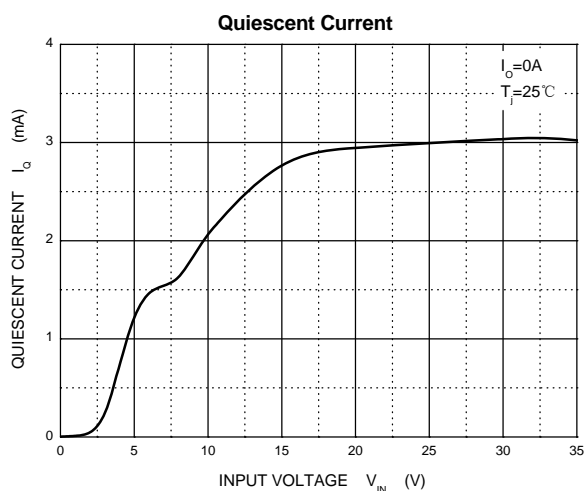
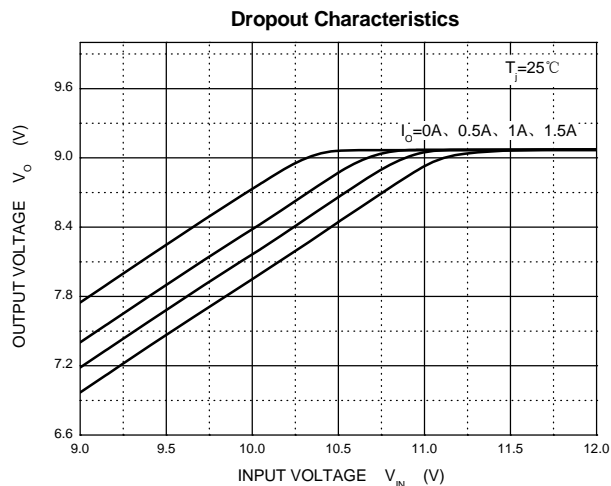
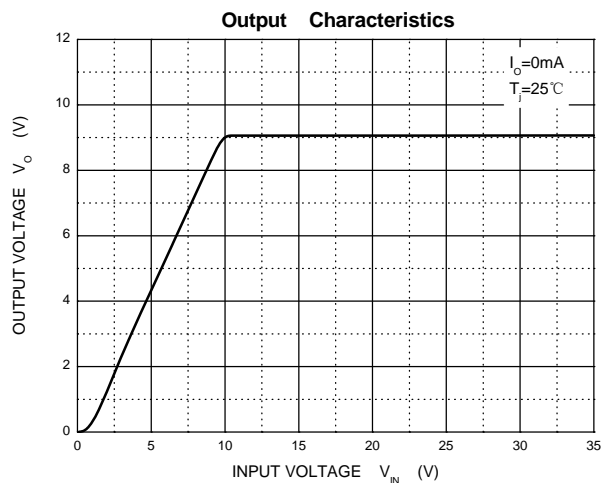
## Typical Application



Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

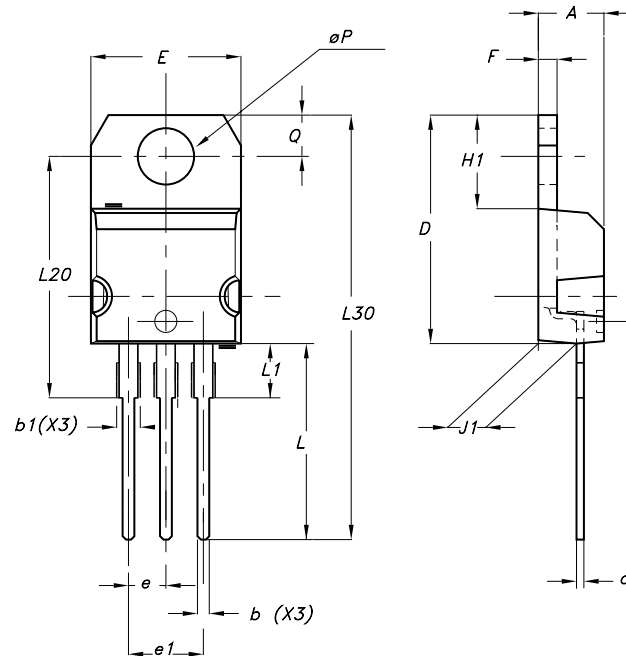


## Typical Characteristics





Package Information  
TO-220S



DIM.	mm.			inch		
	MIN.	TYP	MAX.	MIN.	TYP.	MAX.
A	4.40		4.60	0.173		0.181
b	0.61		0.88	0.024		0.034
b1	1.15		1.70	0.045		0.066
c	0.49		0.70	0.019		0.027
D	15.25		15.75	0.60		0.620
E	10		10.40	0.393		0.409
e	2.40		2.70	0.094		0.106
e1	4.95		5.15	0.194		0.202
F	1.23		1.32	0.048		0.052
H1	6.20		6.60	0.244		0.256
J1	2.40		2.72	0.094		0.107
L	13		14	0.511		0.551
L1	3.50		3.93	0.137		0.154
L20		16.40			0.645	
L30		28.90			1.137	
øP	3.75		3.85	0.147		0.151
Q	2.65		2.95	0.104		0.116



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