



Micro Commercial Components

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## Features

- Internal Short Circuit Current Limiting
- Internal Thermal Overload Protection
- No External Components Required
- Case Material: Molded Plastic. UL Flammability Classification Rating 94-0 and MSL Rating 1
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)

## Maximum Ratings

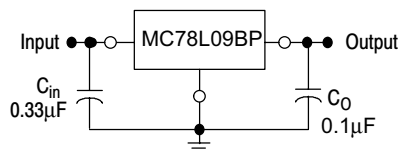
Parameter	Symbol	Value	Unit
Input Voltage	$V_1$	30	V
Operating Junction Temperature	$T_{OPR}$	0 ---+120	°C
Storage Temperature Range	$T_{STG}$	-55---+150	°C

## Electrical Characteristics ( $V_1=15V$ , $I_o=40mA$ , $0^\circ C < T_j < 125^\circ C$ , $C_1=0.33\mu F$ , $C_o=0.1\mu F$ , unless otherwise specified)

Parameter	Sym	Min	Typ	Max	Test conditions
Output Voltage	$V_o$	8.64V	9.0V	9.36V	$T_j=25^\circ C$
		8.55V		9.45V	$12.0V \leq V_1 \leq 24V$ , $I_o=1mA-40mA$
		8.55V		9.45V	$11.5V \leq V_1 \leq V_{MAX}$ , $I_o=1mA-70mA$ (Note)
Load Regulation	$\Delta V_o$		20mV	90mV	$I_o=1mA-100mA$ , $T_j=25^\circ C$ ,
			11mV	40mV	$I_o=1mA-40mA$ , $T_j=25^\circ C$ ,
Line regulation	$\Delta V_o$		45mV 40mV	175mV 125mV	$12.0V \leq V_1 \leq 24V$ , $T_j=25^\circ C$ $13V \leq V_1 \leq 24V$ , $T_j=25^\circ C$
Quiescent Current	$I_q$		4.1mA	6.0mA	$13V \leq V_1 \leq 24V$
		$\Delta I_q$		1.5mA	
Quiescent Current Change	$\Delta I_q$			0.1mA	$1mA \leq I_o \leq 40mA$
Output Noise Voltage	$V_N$		49uV		$10Hz \leq f \leq 100KHz$
Ripple Rejection	RR		45dB		$15V \leq V_1 \leq 23V$ $f=120Hz$ , $T_j=25^\circ C$
Dropout Voltage	$V_d$		1.7V		$T_j=25^\circ C$

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

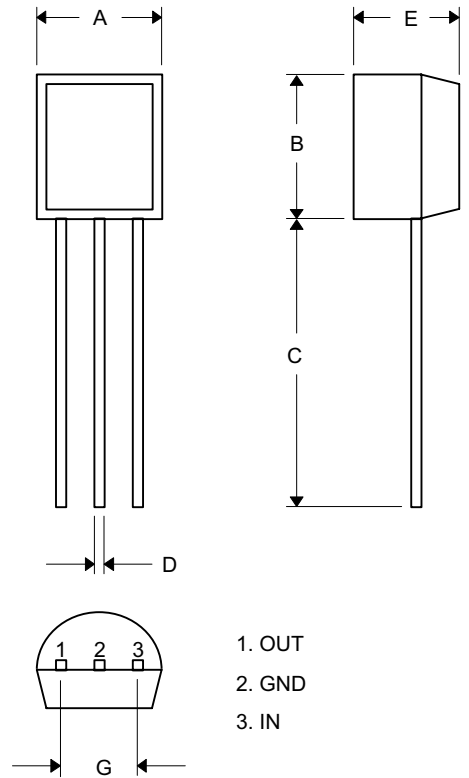
Typical Application:



# MC78L09BP

## Three-Terminal Low Current Positive Voltage Regulator

### TO-92



DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.175	.185	4.45	4.70	
B	.175	.185	4.46	4.70	
C	.500	---	12.7	---	
D	.016	.020	0.41	0.63	
E	.135	.145	3.43	3.68	
G	.095	.105	2.42	2.67	



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## Ordering Information

Device	Packing
(Part Number)-AP	Ammo Packing;2Kpcs/AmmoBox
(Part Number)-BP	Bulk;1Kpcs/Bag

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