

**Features**

- Maximum Output current  $I_o:0.1A$
- Internal Short Circuit Current Limiting
- Internal Thermal Overload Protection
- No External Components Required
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1

**Maximum Ratings**

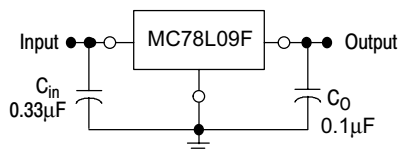
Parameter	Symbol	Value	Unit
Input Voltage	$V_1$	30	V
Operating Junction Temperature	$T_{OPR}$	-20---+120	°C
Storage Temperature Range	$T_{STG}$	-55---+150	°C

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

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	$11.5V \leq V_1 \leq 24V, I_o=1mA-40mA$
		8.55V		9.45V	$11.5V \leq V_1 \leq V_{MAX}, I_o=1mA-70mA \text{ (Note)}$
Load Regulation	$\Delta V_o$		20mV	90mV	$I_o=1mA-100mA, T_j=25^\circ C,$
			10mV	45mV	$I_o=1mA-40mA, T_j=25^\circ C,$
Line regulation	$\Delta V_o$		90mV 100mV	200mV 150mV	$11.5V \leq V_1 \leq 24V, T_j=25^\circ C$ $13V \leq V_1 \leq 24V, T_j=25^\circ C$
Quiescent Current	$I_q$ $\Delta I_q$		2.0mA	6.0mA	$13V \leq V_1 \leq 24V$
				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		38dB	44dB	$12V \leq V_1 \leq 23V, f=120Hz, T_j=25^\circ C$
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

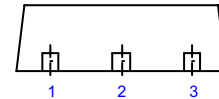
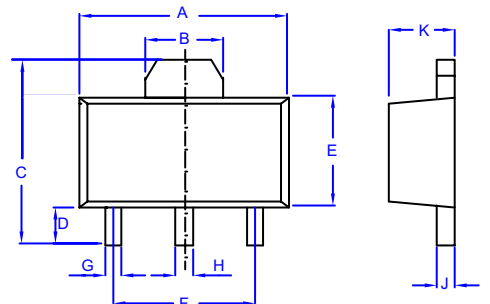
Typical Application:



**MC78L09F**

**Three-Terminal Low Current Positive Voltage Regulator**

**SOT-89**



1. OUT
2. GND
3. IN

DIM	DIMENSIONS				NOTES
	INCHES		MM		
A	.173	.181	4.39	4.60	
B	.063	.071	1.60	1.80	
C	.154	.165	3.91	4.25	
D	.031	.039	0.80	1.00	
E	.092	.100	2.34	2.54	
F	.118	----	3.00	----	TYP
G	.013	.019	0.33	0.48	
H	.015	.021	0.38	0.53	
J	.015	.016	0.38	0.41	
K	.055	.063	1.40	1.60	



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## Ordering Information

Device	Packing
(Part Number)-TP	Tape&Reel;1Kpcs/Reel

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