



MC78L08F

Three-Terminal Low Current Positive Voltage Regulator

Features

- Maximum Output current $I_o:0.1A$
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Internal Short Circuit Current Limiting
- Internal Thermal Overload Protection
- No External Components Required
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Halogen free available upon request by adding suffix "-HF"

Maximum Ratings

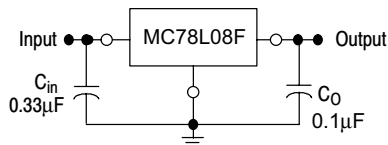
Parameter	Symbol	Value	Unit
Input Voltage	V_1	30	V
Operating Junction Temperature	T_{OPR}	-20---+120	°C
Storage Temperature Range	T_{STG}	-55---+150	°C

Electrical Characteristics ($V_i=14V, I_o=40mA, 0^\circ C < T_j < 125^\circ C, C_1=0.33\mu F, C_o=0.1\mu F, \text{ unless otherwise specified}$)

Parameter	Sym	Min	Typ	Max	Test conditions
Output Voltage	V_o	7.7V	8.0V	8.3V	$T_j=25^\circ C$
		7.6V		8.4V	$10.5V \leq V_1 \leq 23V, I_o=1mA-40mA$
		7.6V		8.4V	$10.5V \leq V_1 \leq V_{MAX}, I_o=1mA-70mA$ (Note)
Load Regulation	ΔV_o		15mV	80mV	$I_o=1mA-100mA, T_j=25^\circ C,$
			8.0mV	40mV	$I_o=1mA-70mA, T_j=25^\circ C,$
Line regulation	ΔV_o		10mV 8.0mV	175mV 125mV	$10.5V \leq V_1 \leq 23V, T_j=25^\circ C$ $11V \leq V_1 \leq 23V, T_j=25^\circ C$
Quiescent Current	I_q ΔI_q		2.0mA	5.5mA	$11V \leq V_1 \leq 23V$
				1.5mA	
Quiescent Current Change	ΔI_q			0.1mA	$1mA \leq I_o \leq 40mA$
Output Noise Voltage	V_N		49uV		$10Hz \leq f \leq 100KHz$
Ripple Rejection	RR	39dB	70dB		$11V \leq V_1 \leq 23V, f=120Hz, T_j=25^\circ C$
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:



SOT-89

1. OUT
 2. GND
 3. IN

DIM	DIMENSINS				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

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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